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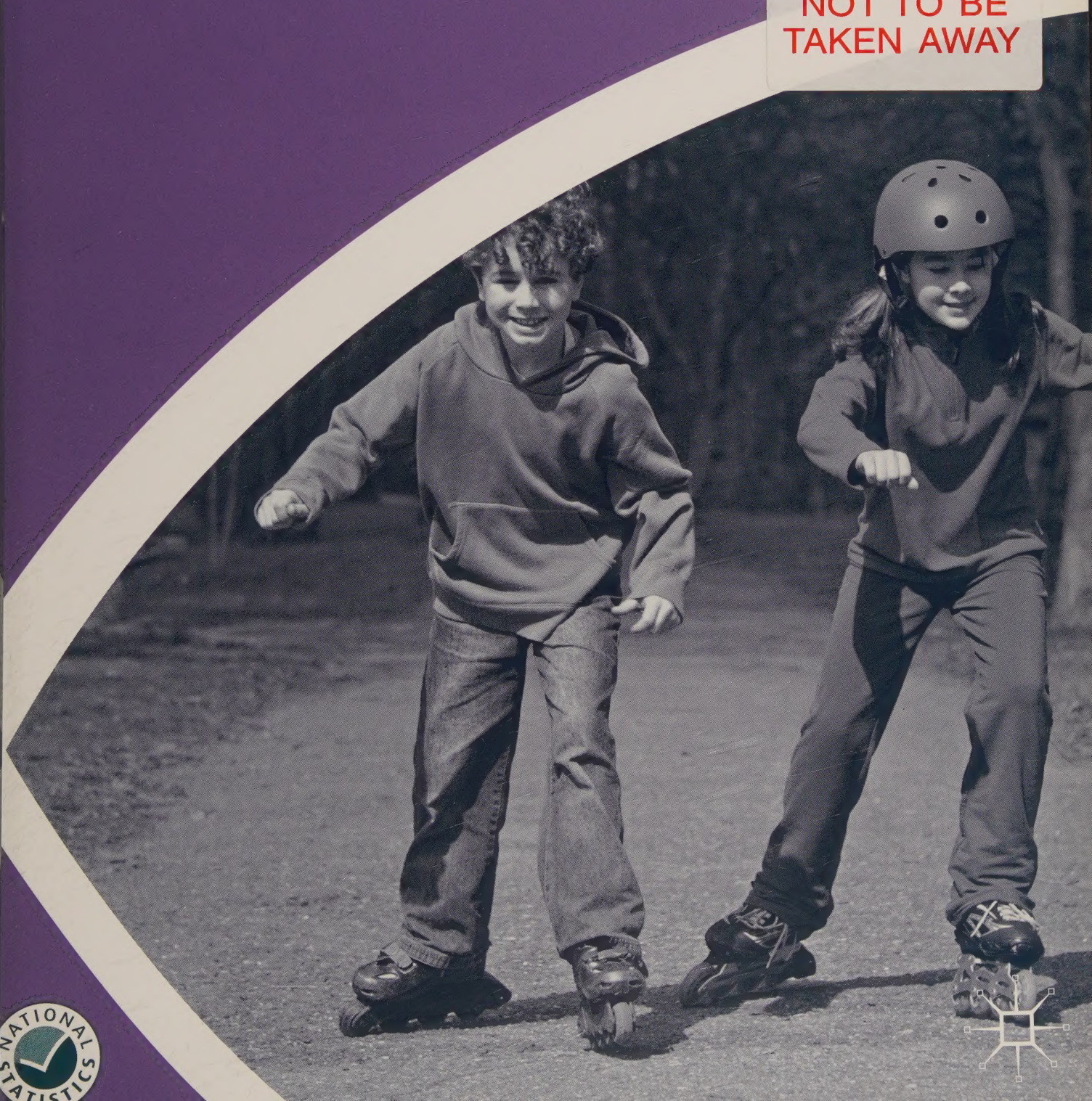

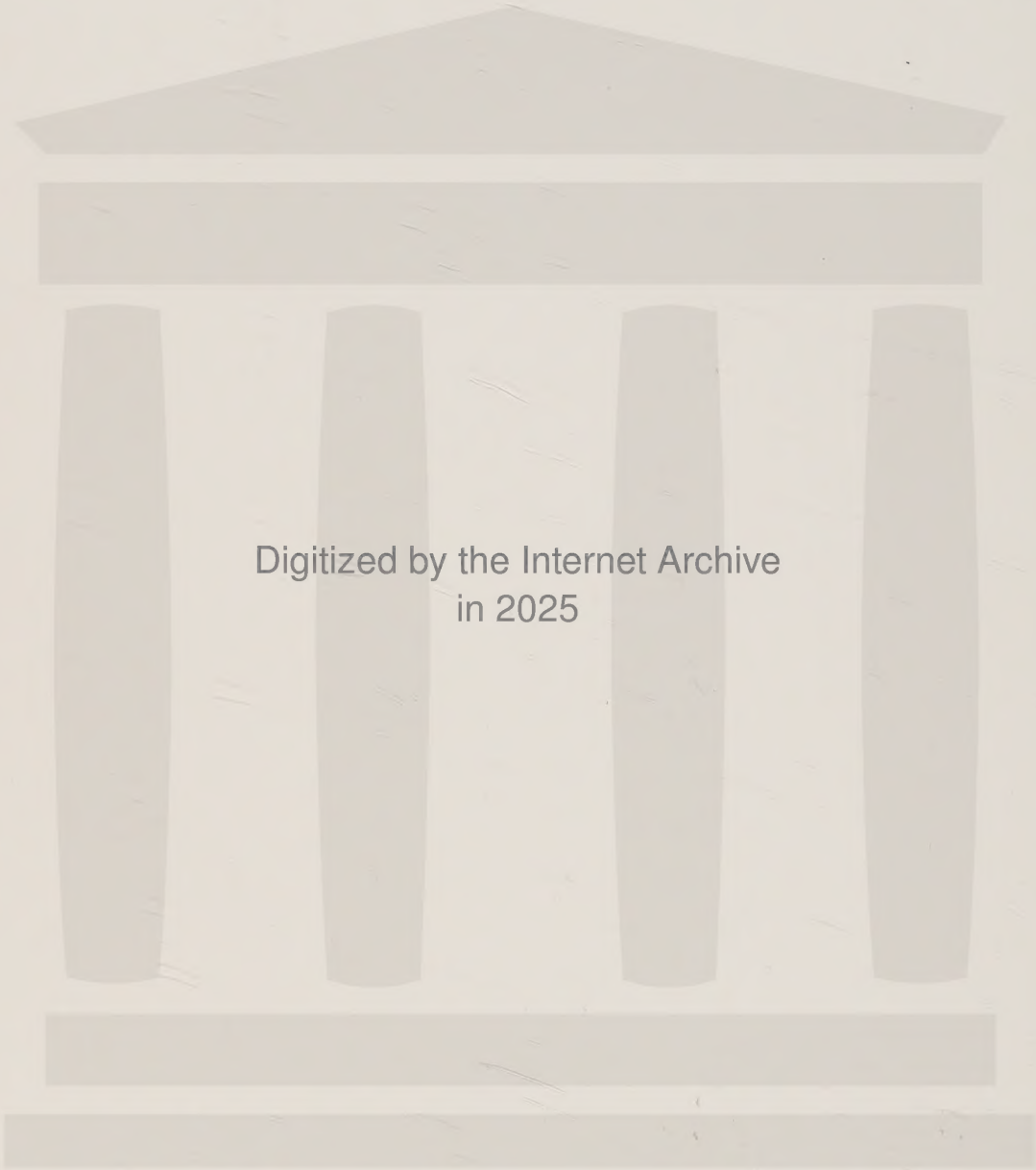

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Health Statistics Quarterly

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Population Trends	by 23 Oct	by 2 Feb	by 4 May	by 26 July

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Newport South Wales NP10 8XG

in brief

Health Statistics Quarterly's digital future

Spring 2010 will herald a new phase for *Health Statistics Quarterly* (HSQ) as one of the first Office for National Statistics (ONS) journals to become primarily an online publication. HSQ 45 will be available on the ONS website at www.statistics.gov.uk/hsq from 24 February. ONS's current publisher, Palgrave Macmillan, will continue to provide printed copies to subscribers who prefer that medium, as well as a value-added online subscription service to the content. The move will bring us many new opportunities to develop and enhance our journals while retaining their quality and values.

HSQ will continue to contain high quality, peer reviewed scientific articles analysing patterns and trends in the nation's health using ONS data and describing key methodological developments. Submissions from authors outside ONS will be welcome. Routinely published health data reports will be published separately as Statistical Bulletins, but will be easily accessible through the HSQ web pages.

In future we will have the opportunity to present data in more readily usable formats, provide links to other material, and reach greater numbers of readers online. Readers will not be required to subscribe, and there will be no charge, although institutional users may prefer to take advantage of the value-added subscription service that Palgrave Macmillan will offer.

This is an ongoing project aimed at presenting the journal's data and analysis in the most accessible and practical formats for our readers. Feedback on any aspect of the new online publication would be greatly welcomed and should be sent to hsq@ons.gov.uk.

We are particularly seeking comment on the reference tables which appear in each issue. Feedback should be sent to vsob@ons.gov.uk

...and *Population Trends* moves online too

Hot on the heels of *Health Statistics Quarterly*, *Population Trends* will publish primarily online from Issue 139. The journal will be available on the ONS website at www.statistics.gov.uk/populationtrends from March 2010.

If you have any questions or comments regarding these plans, or would like to be consulted regarding future developments, please contact population.trends@ons.gov.uk

United Kingdom Health Statistics: 2009

On 26 October ONS released *UK Health Statistics,* 2009 online update as an interactive PDF enhanced with Excel files. This publication brings together data from England, Wales, Scotland and Northern Ireland to provide a unique UK-level overview of key health and healthcare statistics, including pregnancy and childbirth, general health and specific health conditions, mortality and life expectancy and preventive healthcare. It provides an update of key tables relating to UK and constituent country level health data first published in *UK Health Statistics,* No.3 in April 2008.

Key findings from the report:

- Infant mortality rates in the UK are at their lowest ever recorded levels, at 4.7 per 1,000 live births in 2008
- In the UK in 2008, deaths among HIV-infected individuals were around four times lower than at their peak in 1996
- Immunisation rates of children prior to their second birthday have increased continually over the last seven years. In 2008, 98 per cent of these children in the UK were immunised against diphtheria, tetanus, polio and whooping cough
- In 2008, mortality rates for all causes of death in Scotland were higher than anywhere else in the UK for both sexes
- In 2007, males in the UK had lower death rates and a higher life expectancy than the EU average

The PDF is available on the ONS website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6637

Cancer registration in England, 2007

The number and rate of newly diagnosed cases of cancer registered in England in 2007 were published by ONS on 4 November 2009. The data release presents detailed figures for the numbers of cases and rates for selected cancers by sex and age-group, and directly age-standardised rates using the European standard population. These cancers account for approximately 90 per cent of all cancers. They have been produced in collaboration between the National Cancer Intelligence Centre and Vital Statistics Outputs Branch at ONS and the regional cancer registries in England.

There were around 245,300 new cases of cancer registered in England in 2007 (excluding non-melanoma skin cancer). Compared with 2006, the number of registrations increased by around 1,570 cases in males, with a similar increase in females. For males, the overall cancer incidence rates (after adjustment for age) fell slightly to 402 per 100,000 population in 2007, and for females rose slightly to 352 per 100,000; but within the expected range of year on year variation. The three most common cancer in males are prostrate, lung and colorectal and in females are breast, colorectal and lung. Together these account for just over half of all cancers.

The latest data release and previous versions are available on the ONS website at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=7720

A summary is available on the ONS website at: www.statistics.gov.uk/CCI/nugget.asp?ID=915

Occupational mortality

ONS released an analysis of occupational mortality on the 29 October 2009. This is a joint publication between the ONS and the Health and Safety Executive investigating the statistical links between occupations and causes of death in England and Wales covering the period 1991–2000. The report is part of a series published for 10-year periods in the form of Registrar General's Decennial Supplements.

The research was carried out by a team led by Professor David Coggon of the University of Southampton MRC Epidemiology Resource Centre and focuses on those combinations of occupation and cause of death that might be associated with known and postulated potential occupational hazards.

The measure used in the analysis was the proportional mortality ratio (PMR). This measures the proportion of deaths occurring from a given cause for a particular occupation relative to the proportion of deaths from that cause in the whole population.

The report is available on the ONS website at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=1624

Public Sector Productivity: Healthcare

ONS is preparing the fourth 'Public Sector Productivity: Healthcare Output, Input and Productivity' article to be released in March 2010. As an improvement, the article will extend the coverage of the UK healthcare productivity measure to Wales, updating the outputs and inputs measure accordingly.

Population estimates: mid-2008

England and Wales/United Kingdom

On 27 August 2009 ONS published the mid-2008 population estimates. These give estimates of the population for the United Kingdom; constituent countries; Government Office regions; local authorities in England and Wales; council areas within Scotland; district council areas in Northern Ireland and health authorities/boards. Full information on these mid-year population estimates can be found on the ONS website: www.statistics.gov.uk/popest

Scotland

Mid-2008 population estimates for Scotland were released by the General Register Office for Scotland on 28 April 2009. Information on these estimates can be found at www.gro-scotland.gov.uk/statistics/population/index.html

Northern Ireland

Mid-2008 population estimates for Northern Ireland were released by the Northern Ireland Statistics and Research Agency on 30 July 2009. Information on these estimates can be found at www.nisra.gov.uk/demography/default.asp.htm

Thank you

As well as being the last official print edition of HSQ, this is also the last edition to be prepared by Carol Summerfield as managing editor and Nigel Physick as production manager. We would like to thank them for their painstaking work to ensure the quality and efficient production of HSQ over many past editions, and wish them both well for the future.

Recent and forthcoming ONS releases

Recent releases

24 September
Population Trends No. 137 Autumn 2009
www.statistics.gov.uk/statbase/product.asp?vlnk=6303
Print copies available from Palgrave Macmillan 01256 357893

24 September
Focus on Older People: health and social care update
www.statistics.gov.uk/cci/nugget.asp?id=1268

30 September
Older Peoples' Day Statistical Bulletin and Ageing Times
www.statistics.gov.uk/statbase/product.asp?vlnk=15306

15 October
Conception Statistics 2007
www.statistics.gov.uk/statbase/product.asp?vlnk=15055

20 October
Contraception and sexual health, 2008/09
www.statistics.gov.uk/statbase/product.asp?vlnk=6988

21 October
Life expectancy at birth and at 65 by local areas in the United Kingdom, 2006–08
www.statistics.gov.uk/statbase/product.asp?vlnk=8841

21 October
National interim life tables, 2006–08
www.statistics.gov.uk/statbase/product.asp?vlnk=14459

27 October
United Kingdom Health Statistics 2009
www.statistics.gov.uk/statbase/product.asp?vlnk=6637

29 October
Mortality statistics: deaths registered in 2008 (DR)
www.statistics.gov.uk/statbase/product.asp?vlnk=15096

29 October
Occupational Mortality in England and Wales, 1991–2000
www.statistics.gov.uk/statbase/product.asp?vlnk=1624

4 November
Cancer registration statistics 2007
www.statistics.gov.uk/statbase/product.asp?vlnk=7720

11 November
Adoptions 2008
www.statistics.gov.uk/StatBase/Product.asp?vlnk=15049

24 November
Quarterly conceptions to women under 18 – quarter 3 2008
www.statistics.gov.uk/statbase/ssdataset.asp?vlnk=4877

Forthcoming releases

8 December
Birth statistics 2008 (FM1)
www.statistics.gov.uk/statbase/product.asp?vlnk=5768

8 December
Population Trends No. 138 Winter 2009
www.statistics.gov.uk/statbase/product.asp?vlnk=6303
Print copies available from Palgrave Macmillan 01256 357893

13 January 2010
Cancer registrations 2007 (MB1)
www.statistics.gov.uk/statbase/product.asp?vlnk=8843

4 February
Congenital anomalies 2008 (MB3)
www.statistics.gov.uk/statbase/product.asp?vlnk=5799

For further information, contact the ONS Customer Contact Centre 0845 601 3034, email info@statistics.gsi.gov.uk

Health indicators

England and Wales

Figure A Population change (mid-year to mid-year)

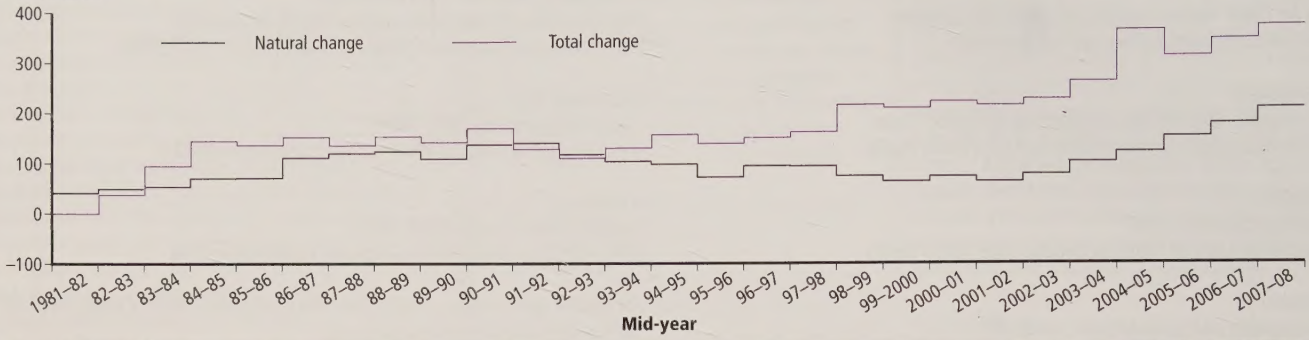


Figure B Age-standardised mortality rate[1]

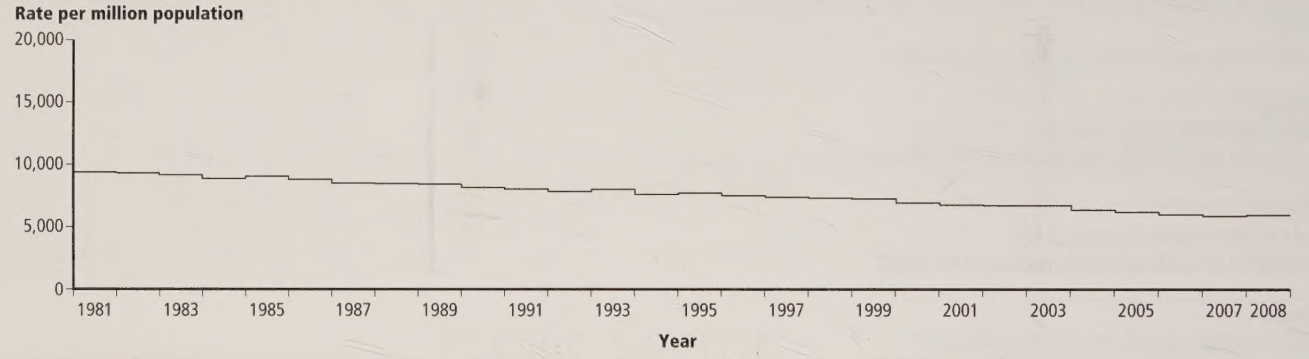


Figure C Infant mortality (under 1 year)

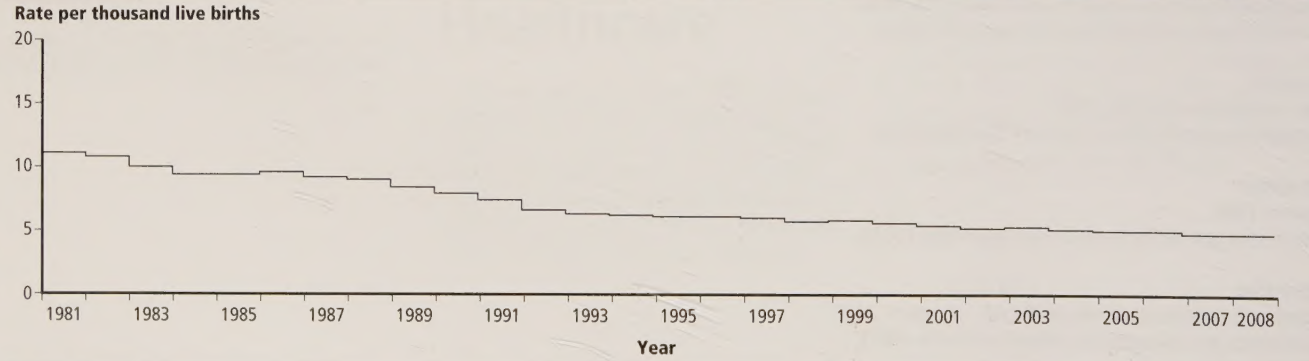
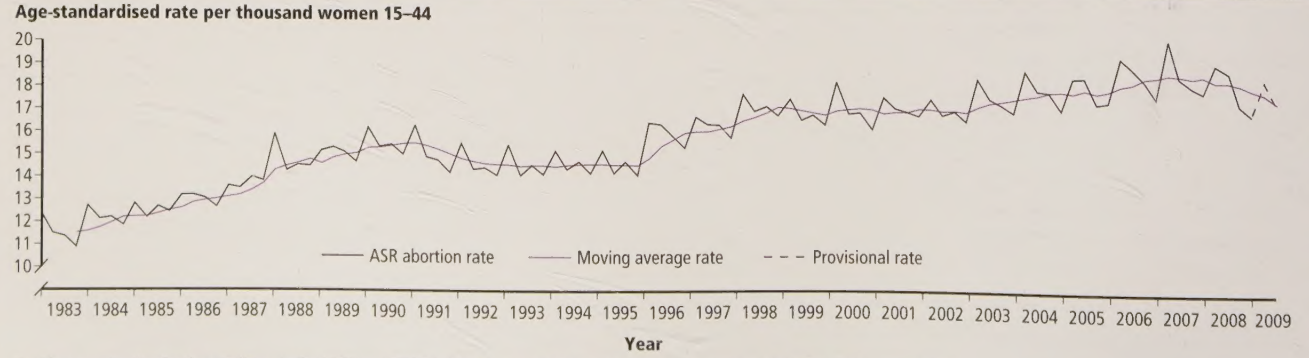


Figure D Age-standardised quarterly abortion rates – residents[2]



1 The age-standardised mortality rate for 2007 and 2008 is based on mid-2007 population estimates published on 21 August 2007.

2 Rates for 2008 and 2009 are based on projected projections.

Social inequalities in female mortality by region and by selected causes of death, England and Wales, 2001–03

Ann Langford, Brian Johnson and Alaa Al-Hamad
Office for National Statistics

This article reports on social inequalities in female mortality by region and cause of death for women aged 25–59 years in England and Wales in the period 2001–03. It is the first official compilation of detailed mortality statistics for women based on the National Statistics Socio-economic Classification (NS-SEC). It is part of a series of articles measuring inequalities in adult mortality.

The results demonstrate a strong socio-economic effect on the mortality of women in all regions. This pattern remained consistent between regions.

There were marked differences in the socio-economic gradient by cause. Mortality rates for women in the least and most advantaged NS-SEC classes were similar for breast cancer. In contrast, compared to women in the most advantaged class, mortality rates were three times as high for the least advantaged women for lung cancer and cerebrovascular disease, around five times as high for ischaemic heart disease and all digestive diseases, and six times as high for respiratory diseases.

Introduction

This article describes social inequalities in adult female mortality rates for selected causes of death and across the Government Office Regions of England, and Wales. It is the fifth in a series of articles reporting mortality using the final version of the National Statistics Socio-economic Classification (NS-SEC). The first three articles covered social inequalities by NS-SEC for men,[1] by cause of death,[2] and by Government Office Region.[3] The fourth article examined inequalities for women in all-cause mortality,[4] and presented results for two classifications, one based on a woman's own occupation, and another on a 'combined' classification based on the most advantaged NS-SEC class of the woman or her husband.

This study focuses on women aged 25–59 in the period 2001–03, and uses the 'combined' NS-SEC classification to analyse mortality rates by region and selected causes of death.

Background

There is a long history of the study of health inequalities by socio-economic classification in England and Wales. The influential Black report[5] showed that there had been a striking lack of improvement in the health experience of the less advantaged social classes up to the 1970s. The Acheson Report[6] in 1998 highlighted widening differences between the expectation of life of the most advantaged and most disadvantaged groups in society. The Government strategy *Tackling Health Inequalities: A programme for action*[7] aspired to 'address the inequalities that are found across different geographical areas, between genders... and between different social and economic groups'. Four years later, however, the *2007 Status Report on the Programme for Action*[8] reported that 'the gap has not narrowed for life expectancy in disadvantaged areas; indeed, the gap has widened, particularly for women.'

The interest in health inequalities has led to a large volume of literature on the analysis of mortality by socio-economic classification[9,10,11] but relatively little on mortality in women. This is due, in part, to a number of well-known difficulties inherent in any analysis of female mortality by a classification based on occupation.[12] There are conceptual difficulties because many women have weaker ties to the labour market than men, which reduces the potential relevance of occupation-based indicators of social class. There are also practical difficulties, since the occupation of a substantial minority of women is inadequately described at death registration and, in many cases, is not recorded at all.

The previous article in this series[4] examined two methods of classification for women. One was based on the woman's own occupation, and the other on a 'combined' measure which also took into account the husband's classification, where available and if reflecting more advantage than the woman's own occupational class. The concept behind the latter classification is similar to the 'dominance' approach first suggested by Erikson[13] who maintained that the life-chances of individuals in a family unit are more likely to be aligned with those of the most advantaged individual in that unit. The idea was summarised as follows: 'A secretary who is married to an executive may have life chances closer to those of executives than to those of other secretaries.'[14] The previous article in this series[4] found that the 'combined' measure was a better discriminator of female mortality, with the mortality rate among those assigned to the least advantaged class 2.6 times that of those in the most advantaged class.

Previous authors[11,15] have studied inequalities in the mortality of women by cause using the Registrar General's Social Class (RGSC).[15] Others have studied inequalities in the mortality of women by region and cause in the early 1990s[16] and covering the period of this study[17] but both these studies analysed by deprivation of area of residence rather than individual socio-economic characteristics. All have found evidence of inequalities that vary by cause and region. However this article is the first to present an analysis of the mortality of women by selected causes of death and region using the new measure of social class – the NS-SEC – which replaced the RGSC in 2001.

Methods

In this article the measure of social class used is the National Statistics Socio-economic Classification (NS-SEC), which is described below, along with the definition of the regions and the selected causes analysed. The sources of data, calculation methods and outcomes are also described in this section.

The classification of women by the National Statistics Socio-economic Classification (NS-SEC)

The National Statistics Socio-economic Classification (NS-SEC) was developed in order to replace the Registrar General's Social Class, which had been criticised as lacking a coherent theoretical basis and becoming increasingly irrelevant to the changing patterns of industry and employment in modern economies.[18]

The conceptual basis of the NS-SEC is the structure of employment relations operating in modern developed economies.[19] Occupations are differentiated in terms of reward mechanisms, promotion prospects, autonomy and job security. The most advantaged NS-SEC classes (for example higher managerial and professional occupations), typically exhibit personalised reward structures, have good opportunities for advancement, have relatively high levels of autonomy within the job, and are relatively secure. These attributes tend to be reversed for the most disadvantaged classes (for example routine occupations). Box One shows the NS-SEC analytical class breakdowns used in this analysis, and provides examples of the occupations included in each class.

Further information on the rationale, derivation and application of the NS-SEC is available on the Office for National Statistics (ONS) website.[20]

This analysis uses the 'combined' classification method, whereby a non-married woman is assigned an NS-SEC class on the basis of her own occupation and employment status, and a married woman is assigned the most advantaged NS-SEC class of either herself or her husband.

Regions and selected causes of death

This article focuses on mortality in the Government Office Regions of England and in Wales. Government Office Regions are the largest level statistical sub-divisions in England (Box Two). Wales is not sub-divided in this analysis. For convenience, use of the term 'region' throughout this article includes Wales.

Further information can be found in the guide to UK geography on the ONS website.[21]

Box one

National Statistics Socio-economic Classification – analytic classes

Analytic class		Examples of occupations included
1	Higher managerial and professional occupations	Directors and chief executives of major organisations, civil engineers, medical practitioners, IT strategy and planning professionals, legal professionals, architects, senior officials in national and local government
2	Lower managerial and professional occupations	Teachers in primary and secondary schools, quantity surveyors, public service administrative professionals, social workers, nurses, IT technicians
3	Intermediate occupations	Graphic designers, medical and dental technicians, Civil Service administrative officers and local government clerical officers, counter clerks, school and company secretaries
4	Small employers and own account workers	Hairdressing and beauty salon proprietors, shopkeepers, dispensing opticians in private practice, farmers, self-employed decorators
5	Lower supervisory and technical occupations	Bakers and flour confectioners, catering supervisor, head waitress, postal supervisor, sales assistant supervising others
6	Semi-routine occupations	Retail assistants, catering assistants, clothing cutters, dressmaker, traffic wardens, veterinary nurses and assistants, shelf fillers
7	Routine occupations	Hairdressing employees, floral arrangers, sewing machinists, bar staff, cleaners and domestics
	Other	Full-time students, never worked, long-term unemployed, inadequately described, not classifiable for other reasons

Source: NS-SEC User Manual, Office for National Statistics

Box two

The Government Office Regions of England

North East (NE)
North West (NW)
Yorkshire and The Humber (YH)
East Midlands (EM)
West Midlands (WM)
East of England (E)
London (L)
South East (SE)
South West (SW)

The causes of death examined in this article are listed in Box Three, along with the number and percentage of all deaths represented in the study population. These causes of death account for approximately 80 per cent of all deaths among women aged 25–59. Causes of death were grouped to ensure sufficiently large numbers for robust statistical analysis when broken down by region and NS-SEC class. Thus the mortality rates reported in this article are for all deaths. four major groups of causes and four specific causes of death. Deaths were coded to the tenth revision of the International Classification of Diseases (ICD).[22]

Box three

Causes of death to women 25–59 included in the analysis

Cause of death	ICD–10 codes	Number of deaths	Percentage of deaths
All causes	A00–R99, V00–Y89	65,276	100
All cancers	C00–C97	31,639	48
Trachea, bronchus and lung	*C33–C34*	*4,607*	*7*
Breast cancer	*C50*	*9,313*	*14*
All circulatory diseases	I00–I99	11,505	18
Ischemic heart disease	*I20–I25*	*4,616*	*7*
Cerebrovascular disease	*I60–I69*	*3,559*	*5*
All respiratory diseases	J00–J99	3,794	6
All digestive diseases	K00–K93	5,322	8

Sources of data

Numerators

The routine collection of data at death registration provided the number of deaths in each age-group for each NS-SEC class in each region for the period 2001–03. These data were used as the basis of numerators for the mortality rates.

The numbers of deaths were subject to two adjustments. The first reapportioned some deaths from NS-SEC analytical classes 3 to class 2. In the first study of this series[1] examination of the ONS Longitudinal Study (LS), a one per cent sample of linked census and death records, revealed that a number of men had been allocated at death registration to NS-SEC class 3 on the basis that they had no supervisory duties. Examination of their 2001 linked Census records revealed, however, that they had in fact been supervisors in 2001, and thus were more appropriately assigned to NS-SEC class 2. A similar phenomenon was observed on examination of the records of women in the ONS Longitudinal Study, and appropriate adjustment factors were calculated to correct for this bias.[4]

The second adjustment was to correct for the under-reporting of the occupation of women at death. The previous article[4] reported that for 19 per cent of deaths insufficient occupational details were available to allow classification by 'combined' NS-SEC. In a sample of 158 women who were 'unclassified at death', the NS-SEC classification could be determined by reference to their census records. The distribution of this sample (Table 1) was used to reallocate the unclassified women across NS-SEC classes in this study.

Appendix A contains Tables A1 and A2, showing the numbers of deaths after these adjustments, by five-year age-band and 'combined' NS-SEC, for region and selected causes respectively.

Table 1 NS-SEC class[1] at Census for those female members of the LS who died 2001–05 and were not classified or inadequately described at death

England and Wales — Numbers and percentages

	NS-SEC analytic class								
	1	2	3	4	5	6	7	Other and FTS[2]	Total
Numbers	6	12	19	7	14	32	22	46	158
Percentages	*4*	*8*	*12*	*4*	*9*	*20*	*14*	*29*	*100*

1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification.
2 Other and FTS includes never worked, long-term unemployed, inadequately described, not classifiable for other reasons and full-time students.
Source: ONS Longitudinal Study

Denominators

All denominators were based on the 'optimised population estimates' for mortality analysis presented in the previous article.[4] To obtain regional denominators, for each age group and NS-SEC combination, the percentage distribution across the regions was calculated from 2001 Census data. The resulting percentages were applied to the optimised population estimates in order to obtain an estimate of person-years at risk by five-year age group and NS-SEC for each region.

Appendix A also contains Table A3, showing the resulting population estimates by region.

Outcome measures

Mortality rates per 100,000 person years, age-standardised to the European standard population, were calculated for each NS-SEC class in each Government Office Region, and for each selected cause of death. As in previous articles in this series[1,2,3,4] the ratio between the mortality rates of the least and most advantaged NS-SEC classes is also presented. For convenience, this mortality rate ratio is referred to as the 'socio-economic gradient'.

Results

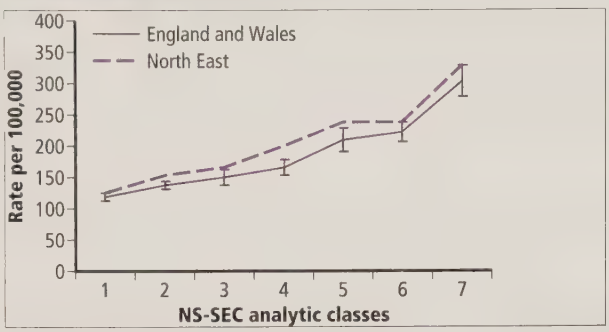
Mortality by region

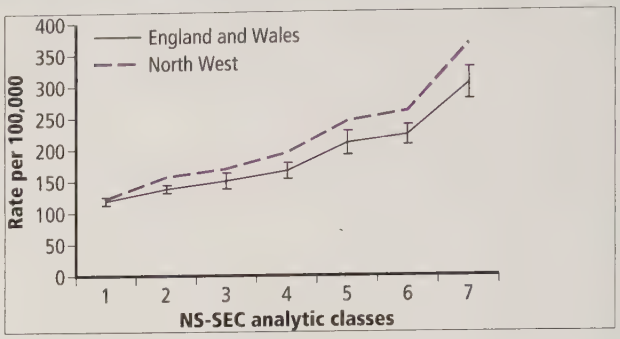
Age-standardised mortality rates by NS-SEC for Government Office Regions and Wales are presented in Table 2. Shaded areas denote rates that are statistically significantly different from the corresponding rate for England and Wales as a whole. The results are illustrated graphically in Figure 1. Figure 2 displays the socio-economic gradient, that is the ratio of mortality rates of those assigned to routine occupations relative to those assigned to higher managerial and professional occupations. for each region.

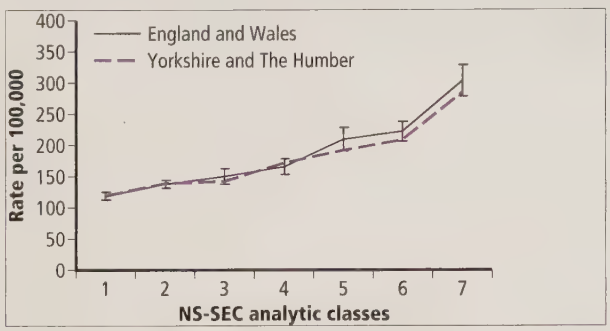
The highest gradients are in London and the North West, where women classified to routine occupations have a mortality rate 3.0

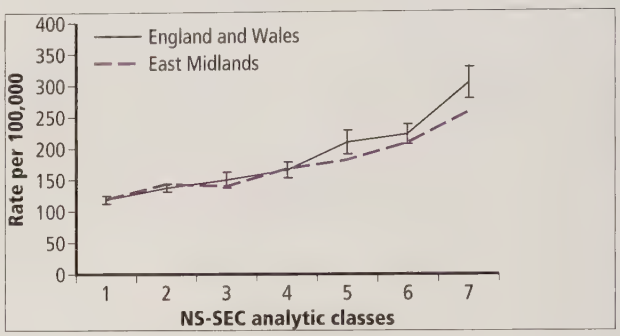
Figure 1 Age-standardised mortality rates[1] by NS-SEC,[2] women aged 25–59, 2001–03

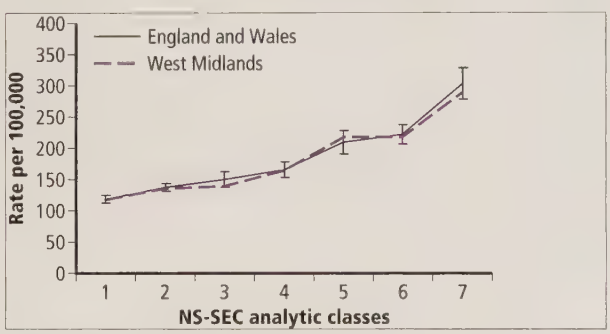
Government Office Regions of England, Wales

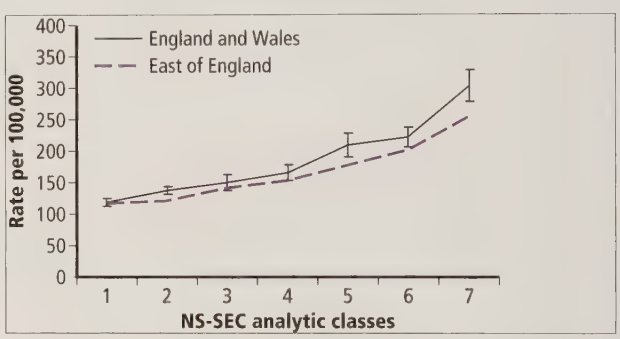


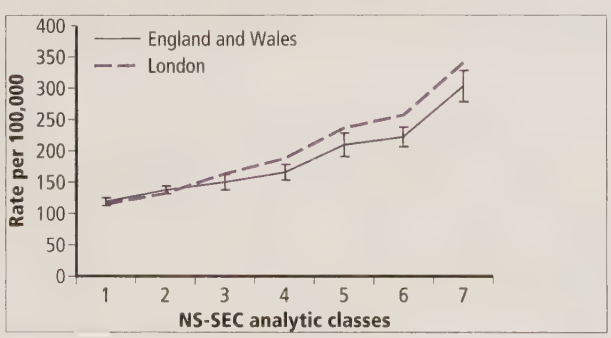


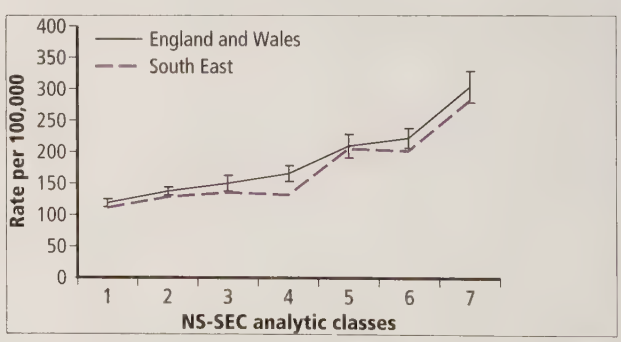


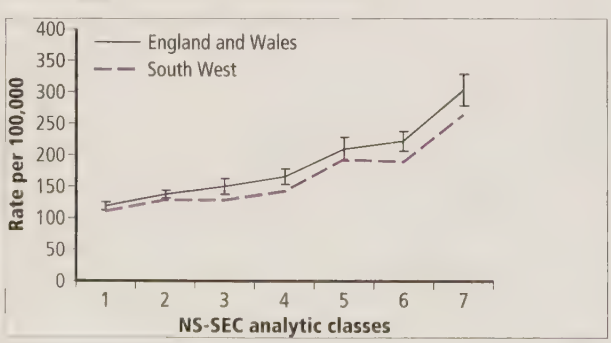


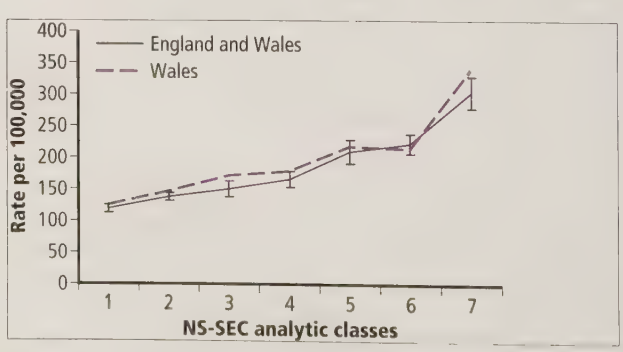












1 Directly age-standardised rate using the European standard population.

2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods

Table 2 Age-standardised mortality rates[1] by NS-SEC,[2] women aged 25–59, 2001–03

Government Office Regions of England, Wales — Rates per 100,000

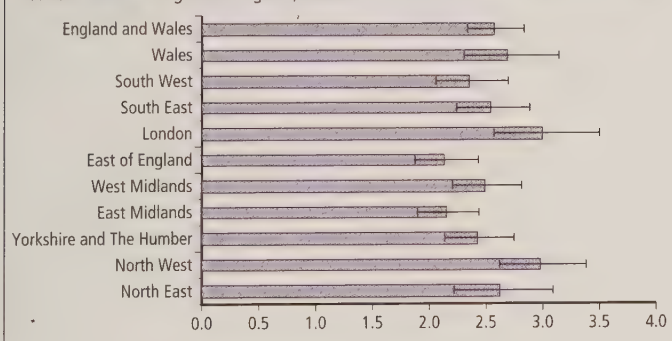
	NS-SEC analytic class							
	1	2	3	4	5	6	7	Socio-economic gradient[3]
North East	126	153 H	167	201 H	237	237	329	2.6
North West	123	156 H	169	195 H	244 H	260 H	367 H	3.0
Yorkshire and The Humber	118	138	141	171	192	208	285	2.4
East Midlands	120	142	141	169	182 L	209	258 L	2.1
West Midlands	116	137	138	164	217	216	290	2.5
East of England	118	123 L	141	152	179 L	202	253 L	2.1
London	114	133	164	187	235	258 H	341	3.0
South East	111	128 L	137	133 L	204	201	282	2.5
South West	112	127 L	130 L	145 L	193	189 L	264	2.4
Wales	127	148	170	179	218	215	340	2.7
England	116	136	147	164	209	221	298	2.6
England and Wales	118	137	149	165	210	221	302	2.6

1 Directly standardised rate using the European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the womans classification. Adjustments for the under-recording of death have been applied as described in Methods.
3 Ratio of mortality rates of NS-SEC class 7 to the mortality rate of NS-SEC class 1.

H Rate is statistically significantly higher than that for England and Wales.
L Rate is statistically significantly lower than that for England and Wales.

Figure 2 Socio-economic gradients,[1] women aged 25–59, 2001–03

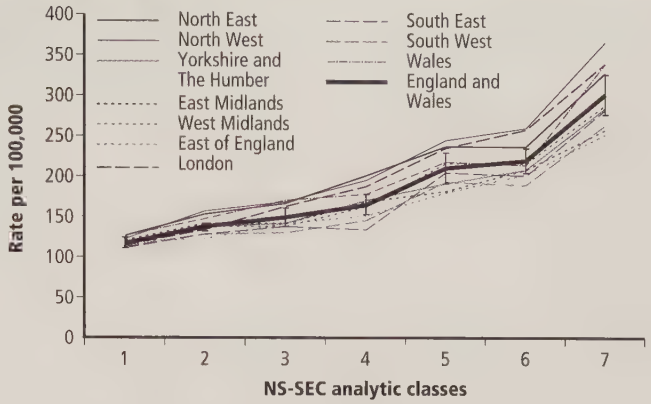
Government Office Regions of England, Wales



1 Ratio of mortality rates of NS-SEC class 7 to the mortality rate of NS-SEC Class 1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Figure 3 Age-standardised mortality rates[1] by NS-SEC analytic class,[2] women aged 25–59, 2001–03

Government Office Regions of England, Wales



1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

times that of women classified to higher managerial and professional occupations. This gradient is not however statistically significantly higher than the gradient for England and Wales as a whole (2.6). The lowest gradients are in the East of England and the East Midlands (2.1), and these gradients are statistically significantly lower than those for England and Wales.

Figure 3 demonstrates that there is relatively little difference in mortality rates between regions for the more advantaged classes, but more substantial differences for the more disadvantaged classes.

In detail, the results show that age-adjusted mortality rates in the North West for most NS-SEC classes are statistically significantly higher than the corresponding rates for England and Wales. In both the North West and the North East, mortality rates for each NS-SEC class are consistently higher than the corresponding rate for England and Wales.

Most mortality rates in the South West are statistically significantly lower than the corresponding NS-SEC class rates for England and Wales. In both the South West and the South East, mortality rates for each NS-SEC class are consistently lower than the corresponding rate for England and Wales.

Mortality by selected causes

Cancer

Table 3 presents the age-standardised rates by NS-SEC for all cancers; trachea, bronchus and lung cancer, and breast cancer. The results are displayed in Figure 4.

The mortality rates for all cancers displayed a distinct socio-economic pattern. The socio-economic gradient, that is the ratio of mortality rate of NS-SEC class 7 to NS-SEC class 1, was approximately 1.5. This implies that women in the least advantaged class had a mortality rate approximately one-and-a-half times that of women in the most advantaged class.

Table 3 Age-standardised mortality rates[1] from selected malignant neoplasms by NS-SEC[2], women aged 25–59, 2001–03

England and Wales

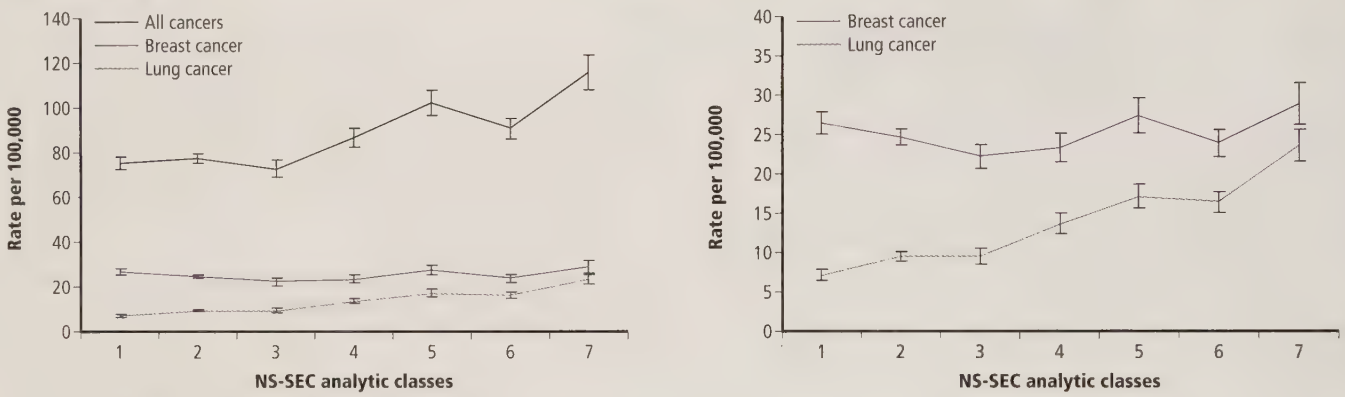
Rate per 100,000

NS-SEC analytic class	All cancers			Trachea, bronchus and lung			Breast cancer		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	75	72	78	7	6	8	26	25	28
2 Lower managerial and professional	77	75	80	9	9	10	25	24	26
3 Intermediate	73	69	77	9	8	10	22	21	24
4 Small employers and own account workers	87	82	91	14	12	15	23	22	25
5 Lower supervisory and technical	102	96	108	17	15	19	27	25	29
6 Semi-routine	90	86	95	16	15	18	24	22	25
7 Routine	116	108	123	23	21	25	29	26	31
Ratio of classes 7:1	1.5	1.4	1.7	3.3	2.9	3.7	1.1	1.0	1.2

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Figure 4 Age-standardised mortality rates[1] for all cancers, lung cancer and breast cancer by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales



1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

The mortality rates for breast cancer, however, were fairly consistent over the socio-economic classes, with a gradient of only 1.1. The rate for the most advantaged class was not statistically significantly different from that of the least advantaged class. The pattern for lung cancer was quite different. Most classes had a statistically significantly higher mortality rate than the previous class, and mortality rates for women in the least advantaged class were more than three times that of women in the most advantaged class.

Circulatory diseases

Table 4 presents the age-standardised rates by NS-SEC for all circulatory diseases, and for ischaemic heart disease and cerebrovascular diseases separately. The results are displayed in Figure 5.

The mortality rates for all circulatory diseases displayed a more pronounced socio-economic pattern than those for cancer. Most classes had significantly higher mortality rates than the previous class. The exception was between NS-SEC classes 5 and 6 (lower supervisory and technical, and semi-routine). The mortality rate for NS-SEC class 7 (routine workers) was particularly high. The socio-economic gradient, that is the ratio of mortality rate of NS-SEC class 1 to NS-SEC class 7, was approximately 4.2. This implies that women in the least advantaged class had a mortality rate approximately four times that of women in the most advantaged class.

The socio-economic pattern was very similar for ischaemic heart disease. Women in the least advantaged class had a mortality rate 5.3 times that of women in the most advantaged class.

The socio-economic pattern for cerebrovascular disease was rather different to that of ischaemic heart disease.(Figure 5) The differences in mortality rates between adjacent classes were more consistent and the mortality rate for NS-SEC class 7 was not markedly higher. The socio-economic gradient was still high at 3.4, but was statistically significantly lower than the gradient for all circulatory diseases.

Respiratory and digestive diseases

The results for these two groups of diseases are shown in Table 5 and displayed in Figure 6. The socio-economic pattern of mortality rates was similar to that for ischaemic heart disease. Mortality rates rose gradually between NS-SEC classes 1 and 4. However, the difference in mortality rates between NS-SEC classes 4 and 5, and between classes 6 and 7 were statistically significant. The socio-economic gradients were 6.2 for respiratory diseases and 5.2 for digestive diseases.

Table 4 Age-standardised mortality rates[1] from selected circulatory diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales

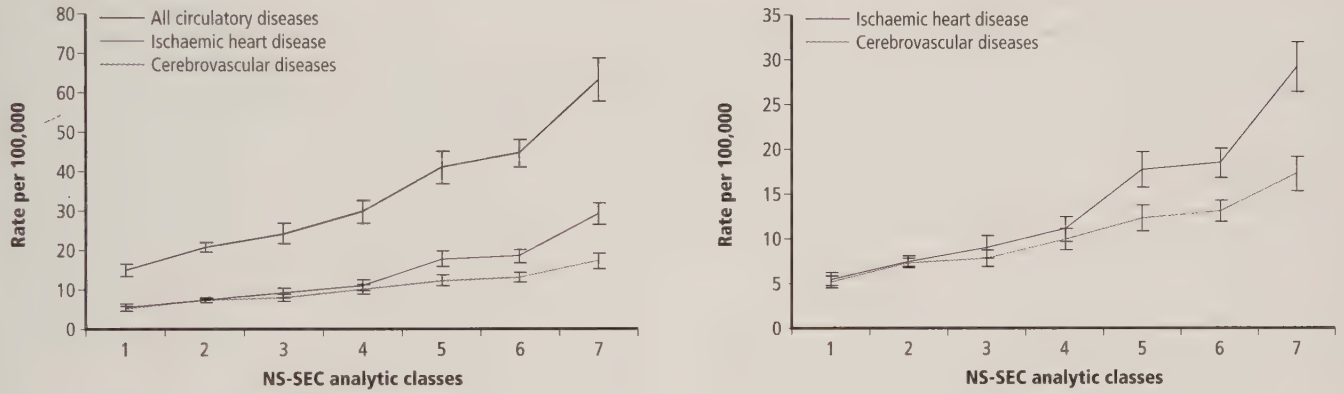
Rate per 100,000

NS-SEC analytic class	All circulatory diseases			Ischaemic heart disease			Cerebrovascular diseases		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	15	13	16	5	5	6	5	5	6
2 Lower managerial and professional	21	20	22	7	7	8	7	7	8
3 Intermediate	24	22	27	9	8	10	8	7	9
4 Small employers and own account workers	30	27	33	11	10	12	10	9	11
5 Lower supervisory and technical	41	37	45	18	16	20	12	11	14
6 Semi-routine	45	41	48	19	17	20	13	12	14
7 Routine	64	58	69	29	27	32	17	15	19
Ratio of classes 7:1	4.2	3.7	4.8	5.4	4.6	6.3	3.4	2.9	3.9

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Figure 5 Age-standardised mortality rates[1] for all circulatory diseases, ischaemic heart disease and cerebrovascular diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales



1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Table 5 Age-standardised mortality rates[1] from all respiratory and all digestive diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales

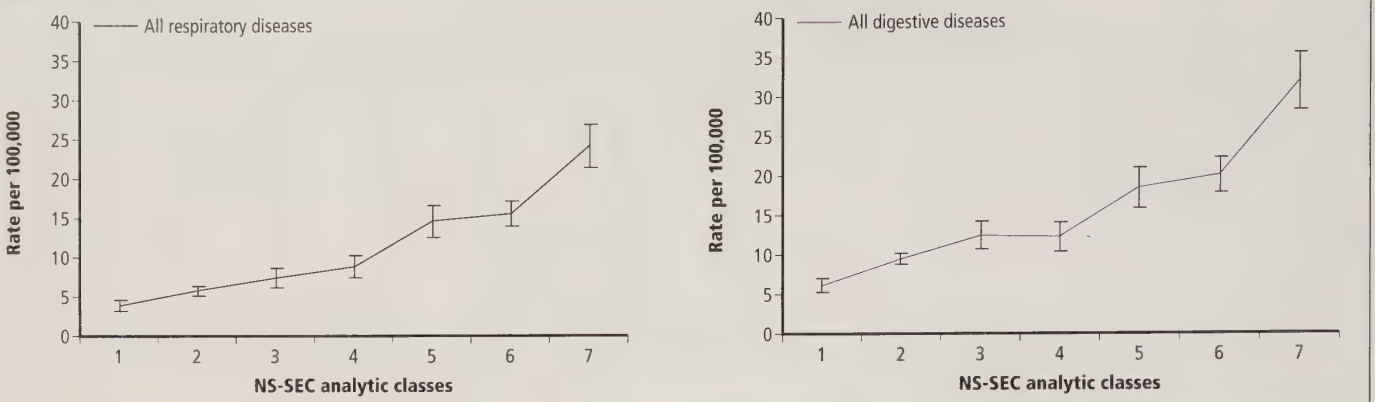
Rate per 100,000

NS-SEC analytic class	All respiratory diseases			All digestive diseases		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	4	3	5	6	5	7
2 Lower managerial and professional	6	5	6	9	9	10
3 Intermediate	7	6	9	12	11	14
4 Small employers and own account workers	9	7	10	12	10	14
5 Lower supervisory and technical	15	13	17	18	16	21
6 Semi-routine	16	14	17	20	18	22
7 Routine	24	21	27	32	28	35
Ratio of classes 7:1	6.2	5.0	7.5	5.2	4.3	6.2

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Figure 6 Age-standardised mortality rates[1] for all respiratory diseases and all digestive diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales



1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Comparison of gradients by cause

Figure 7 shows the socio-economic gradients for each of the disease categories. The smallest gradients were for all cancers combined and for breast cancer. The highest gradients were for respiratory diseases, digestive diseases and ischaemic heart disease, for which women in the least advantaged classes had mortality rates more than five times that of women in the most advantaged classes.

For all diseases studied, mortality rates for those classed as small employers and own account workers (NS-SEC class 4) were significantly lower than those classed as lower supervisory and technical (NS-SEC class 5). There were no significant differences between the rates for class 5 and the rates for those classed as semi-routine workers (NS-SEC class 6). Rates for those classed as routine workers (NS-SEC class 7) were statistically significantly higher than those classed as semi-routine workers (NS-SEC class 6) for all causes of death studied.

Figure 7 Socio-economic gradients[1] by selected causes, women 25–59, 2001–03

England and Wales

1 Ratio of mortality rates of NS-SEC class 7 to the mortality rate of NS-SEC Class 1. NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Mortality by selected region and cause

The socio-economic variation of mortality by cause across regions was examined only for the North West and the South West, the regions with the highest and lowest all-cause mortality rates for most NS-SEC classes. Owing to the lack of statistically significant variation between regions for all-cause mortality, only mortality rates for the two major causes of death 'All cancers' (48 per cent of deaths) and 'All circulatory diseases' (18 per cent of deaths) are displayed in Table 6 and illustrated in Figure 8.

The estimated mortality rates for the North West are generally higher than those in the South West and statistically significantly so for NS-SEC classes 2, 3, 4 and 6 for all cancers combined, and for all classes except NS-SEC class 3 for circulatory diseases. By contrast, the socio-economic gradients are not statistically significantly different between the two regions for either major cause of death.

Table 6 Age-standardised mortality rates[1] for selected causes and regions by NS-SEC,[2] women aged 25–59, 2001–03

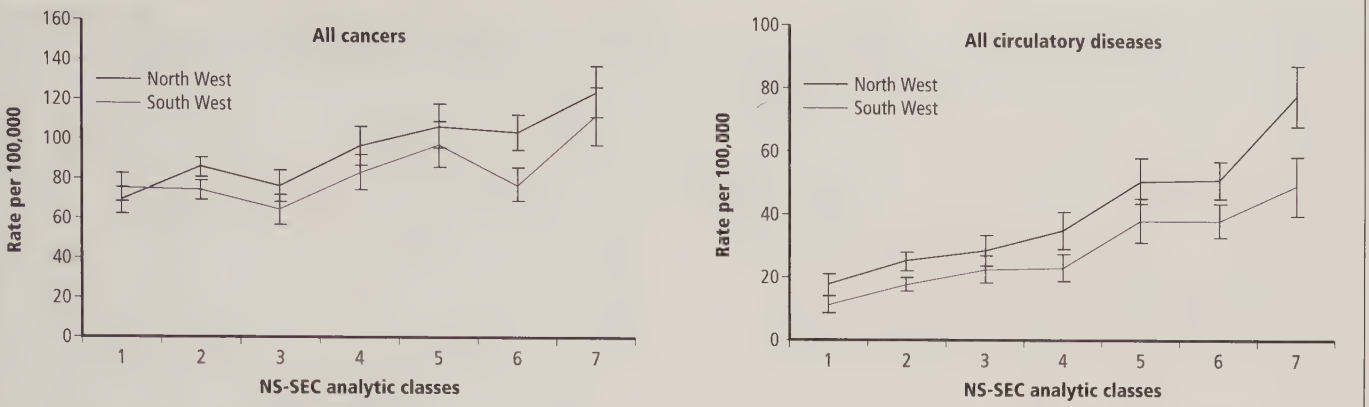
Rates per 100,000

NS-SEC analytic class	All cancers		All circulatory diseases	
	North West	South West	North West	South West
1 Higher managerial and professional	69	76	18	11
2 Lower managerial and professional	86	74	25	18
3 Intermediate	76	65	29	22
4 Small employers and own account workers	97	83	35	23
5 Lower supervisory and technical	107	98	51	38
6 Semi-routine	104	78	51	38
7 Routine	125	112	78	49
Ratio of classes 7:1	1.8	1.5	4.4	4.4

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Figure 8 Age-standardised mortality rates[1] for selected causes and regions by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales



1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

Discussion

Regional mortality

The results show variation in mortality rates between regions, with rates in the North West and North East consistently higher for all classes than rates in the South West and South East. A 'north-south' divide was also reported by authors considering female mortality by deprivation of area of residence both in the 1990s[16] and in the period covered in this study.[17] A 'north west-south east divide' in self-reported health[23] was also reported where the authors found that each of the seven NS-SEC classes had 'higher rates of poor health in Wales, the North East and the North West regions of England than elsewhere'.

This analysis also found that regional differences in mortality were smaller for the most advantaged classes and greater for the least advantaged classes. The comparative insensitivity of the most advantaged classes to regional effects has also been found by authors working on local area deprivation.[17] That study found that 'those living in the least deprived areas had similar mortality rates, independent of region'. A similar pattern was reported in the third article in the current series which considered male socio-economic inequalities by region using NS-SEC.[3] On the other hand, for the least advantaged, differences in mortality were more apparent between regions. The North West had mortality rate of 367 all-cause deaths per 100,000 person-years while the East of England had a rate of 253 all-cause deaths per 100,000 person years. A similar effect was found in the analysis of men,[3] however the effect for men appeared to be stronger, since the mortality rate for the least advantaged class varied by approximately 80 per cent across regions, compared with a variation of approximately 45 per cent for women.

The current results do not indicate large regional variation in socio-economic gradients. The highest and lowest gradients were 2.1 and 3.0 respectively, but only two regions had significantly different socio-economic gradients to those for England and Wales as a whole. In the corresponding analysis of men[3] the gradients were similar, but there were significant differences in seven of the ten regions. This may be because relative differences between the sexes were smaller, or because the methodology adopted in the current analysis was not sufficiently sensitive to detect smaller differences.

The crucial aspect of the methodology that could affect the ability of this study to detect smaller differences involves the adjustments that have been made to the data to correct for the under-recording of occupation at death. These adjustments were made to correct for bias, but have necessarily resulted in larger confidence intervals for the estimates. Consequently there were difficulties in the detection of differences in smaller sub-samples, such as the smaller regions and also in smaller causes of death.

However, authors considering mortality by deprivation[16,17] have also found that although mortality rates increase with deprivation for both sexes, the relationship was generally stronger for males. Figures published by authors studying self-reported health[23] have indicated that relative differences between rates of those reporting 'not good' general health between the least and most advantaged NS-SEC classes for England were of the order of 2.7 for men, but only 2.2 for women. Hence there is some evidence in the literature that relative differences in regional socio-economic inequalities were smaller for women.

Many reasons have been suggested as to why there may be inequalities between regions, particularly in the most disadvantaged classes.[3] Theoretical explanations include suggestions that the regional differences in mortality are associated with regional differences in unemployment risk, selective migration, differential concentrations of deprived areas and material disadvantage, or differing geographic patterns in health-related behaviours.

It is well established that there is a higher prevalence of ill-health and excess mortality in men and women who are unemployed.[24,25] In addition, the authors suggested that job insecurity itself may constitute a psychosocial hazard to health. As unemployment and the risk of unemployment is greater in the north,[26] this implies greater psychosocial stress on both men and women, particularly on those in routine or semi-routine occupations. Women may be affected directly, but possibly also through their husbands' employment position, potentially leading to increased stress and consequent mortality for women in the north, and particularly for the more disadvantaged.

Another potential explanation of regional inequalities is that of selective migration.[27] This explanation suggests that those with good long-term health are more likely to move (for example to find work) while those with serious health problems are less likely to move and will have higher mortality rates. This is the so-called 'healthy migrant effect' which would lead to varying mortality rates between advantaged and disadvantaged areas. Some authors[28] however have questioned whether this is a significant effect at the regional level. There are also questions as to how relevant this factor is for female mortality, although others have found that gender made little difference to the likelihood of migrants moving to more advantaged areas.[29]

A further explanation of regional differences may be that regions in the north have a higher concentration of deprived neighbourhoods, whose

effect is not fully captured by the use of an occupational based socio-economic measure such as NS-SEC. A study[30] on cancer survival trends of males and females in England, for instance, found that survival was consistently lower for patients in the deprived Spearhead Primary Care Trust (PCT) Areas than for those resident in the rest of England. Most of these PCT areas are in the North, while there are none in the South West or South East. The disproportionate concentration of local deprivation may therefore be part of the explanation of the regional differences observed in the current study.

A related explanation is that regional differences may be directly related to material deprivation. Materialist explanations of inequalities suggest that individual incomes determine living conditions, including diet and housing quality, which consequently affect health and mortality.[24] Both income inequality and mean income have indeed been found to be associated with mortality[31] and it has been reported that in 2003–04 average incomes in the North East and the North West were among the smallest in England.[32]

Another explanation of the regional differences is that there may be regional differences in health-related behaviour between regions. Lifestyles have been recognised as contributing strongly to inequalities in mortality[33] and differences in the prevalence of smoking, in particular, have been found to account for much of the variation in mortality between areas.[34] More recently it has been shown in a study looking at self-reported health in women that the strongest independent effect on health was from smoking.[35] It is known that levels of smoking vary quite markedly over both regions and social class. The General Household Survey found that in England in 2001, 30 per cent of women living in households classified to the manual group smoked cigarettes, compared with 20 per cent of those in households classified as non-manual. The GHS also reported on variation by region with 29 per cent of women smoking in the North West in 2001, but only 22 per cent in the South West.[36] This would also seem to be a plausible explanation as to why more disadvantaged women in the north have a higher mortality rate than women in a similar position in the south.

Mortality by cause

Malignant neoplasms

The results presented here show a significant, but relatively small, socio-economic gradient for all cancers combined (1.5), a marked gradient for lung cancer (3.3) but no significant gradient for breast cancer.

Many authors have also found strong socio-economic effects in lung cancer mortality.[11,15] In addition, an international study[37] comparing mortality rates for 1981–85 with 1991–95, found that in four western European countries rates of mortality from lung cancer in women had risen over the decade. The authors also found that this rise had been greater for women with lower educational levels in three of the countries studied. It has been estimated[38] that eight in ten lung cancer deaths in women are smoking-attributable, so the socio-economic gradient observed in the current study may well reflect the differential smoking patterns in socio-economic groups.[36] Many authors[39,40] go further, postulating that 'the combination of the greatly increased mortality of smokers with the now much lower prevalence of smoking among the more affluent is the major contributor to the widening health inequalities'[39] and that 'scope for reducing health inequalities related to social position is limited unless many smokers in lower social positions stop smoking'.[39]

In contrast, a flat or inverse socio-economic gradient in breast cancer mortality has been well documented. A study of mortality covering the 1970s and 1980s, which based socio-economic status on tenure and car-ownership, found that breast cancer did not appear to differ significantly between socio-economic groups.[41] Later findings[11] using the Registrar General's Social Class (RGSC) covering the late 1990s found an inverse gradient in breast cancer mortality and concluded that this inverse gradient had increased over the period 1986–2000. An international study[42] also covering the 1990s found that in eight of the 11 European populations studied, women with a higher education level had a greater risk of dying from breast cancer than women of a lower educational level. It has been suggested that this pattern may be related to the rise in incidence of later childbearing, which is more prominent in women in more advantaged classes.[24,43]

The comparatively flat socio-economic pattern in breast cancer mortality found in this study is probably attributable to the fact that while breast cancer incidence is higher among more affluent women, survival is also higher among these groups. Breast cancer incidence has been rising steadily, both in the age range invited for breast screening (50–69 years) and at other ages.[44,45] Survival has also been rising, however.[46,47] Thus although overall five-year survival rose from 68 per cent for women diagnosed in the late 1980s to 80 per cent for women diagnosed in the late 1990s, the gap in survival between the most affluent and the most deprived was stable at around 6 per cent .

The results shown here for all cancers combined can be compared with those from an international study[48] of women aged 20–74 in seven countries that used educational qualifications as a proxy for socio-economic status. That study found an inverse gradient for all neoplasms in two eastern European countries, a small positive gradient in two Scandinavian countries and no significant gradient in the other three countries. The results presented here are more compatible with the Scandinavian results.

Circulatory diseases

This study found higher inequalities for all circulatory diseases and particularly for ischaemic heart disease, the socio-economic gradients were 4.3 and 5.4 respectively. Earlier authors looking at manual/non-manual mortality rate ratios for the 1980s[15] and 1990s[11] also found that ischaemic heart disease had a ratio more than twice that of breast cancer. An international comparison[48] also found stronger socio-economic gradients for cardiovascular disease than for all cancer amongst women.

The explanations that have been put forward for the existence of a socio-economic gradient for circulatory diseases have included differential behavioural factors, material circumstances and exposure to psychosocial hazards at work. Some[48] have suggested that inequalities in ischaemic heart disease could be due to a strong social patterning of behavioural risk factors (dietary factors, lack of physical activity, obesity) among women. Indeed, it has been found that in 2001, 30 per cent of women in routine occupations were obese compared with 16 per cent in higher managerial and professional occupations.[49] The authors[48] suggest that obesity may be a response of women to material disadvantage and/or psychosocial stressors. Support for psychosocial explanations comes from authors who found that high job strain and effort-reward imbalance seemed to increase the risk of cardio-vascular mortality in a study that included both sexes.[50] Others[51] have also claimed that much of the difference in incidence of coronary heart disease can be explained by differences in the psychosocial work environment, with additional contributions from behavioural factors such as smoking and from some life-course factors. The psychosocial explanation is more problematic for this study, as the combined indicator allocates a substantial minority of women to their husband's occupation, rather than their own.

Respiratory and digestive diseases

This study found that mortality rates from these diseases exhibited a similar pattern to that of mortality rates from IHD. It has been estimated[38] that over 80 per cent of deaths from chronic obstructive lung disease can be attributed to smoking. As this disease accounts for over 70 per cent of respiratory disease deaths, it seems that the prevalence of smoking among differing social classes would again be an important factor in explaining socio-economic gradients observed.

Approximately three-quarters of deaths from all digestive diseases are associated with liver disease. The relationship between alcohol consumption and liver disease is well founded[52,53] but the relationship between alcohol consumption and socio-economic position is complex. Surveys on alcohol consumption have reported that women in managerial and professional households are more likely than other women to have drunk alcohol in the last week,[36,54] and more likely to have drunk more in the week than other women[36]. However, it has also been found[54] that among women, those living in semi-routine and routine households were the most likely to indulge in binge drinking, that is drinking that exceeds twice the recommended daily limits. This later study also indicated that this drinking behaviour was far more common at younger ages. As other authors[55] have found that, for younger women, those in the manual classes were more likely to die from alcohol-related causes, binge drinking may be an important factor in explaining the socio-economic mortality gradient found in this study.

Another possible explanation may be related to the individual occupations included in the more disadvantaged classes. A recent study of alcohol-related mortality by occupation[56] found that, for women aged 20–64, the seven occupations with the highest alcohol-related mortality included bar staff, waitresses, hairdressers and elementary office occupations. Most of these occupations would primarily be classified as semi-routine or routine, and may therefore also partly explain the socio-economic gradient found in this study.

Mortality by selected region and cause

Only the two regions with highest and lowest all-cause mortality rates were compared for all cancers and all circulatory diseases. There was evidence of differences in mortality rates between the two regions in all classes but the socio-economic gradients, as measured by the ratio of the mortality rates between the least and most advantaged classes, were not statistically significant. This may be partly due to methodological difficulties in detecting small differences noted earlier. However, other authors[17] have also found relatively small differences between inequalities for these two diseases and regions. For instance, they found that the ratio of mortality rates between the first and fifth deprivation quintile for all cancers was 1.5 for the North West and 1.4 for the South West. For all circulatory diseases the ratio was 2.4 for both the North West and the South East.

Comparison with male mortality

The second article in this series described the socio-economic inequalities by cause of death for men aged 25–64.[2] However, mortality rates for the different diseases between the two articles are not directly comparable for three main reasons. The first is that since women in 2001 retired at 60, the working-age range was chosen to be 25–59, and so the age range is not comparable. The second reason is that it is well known that the effect of disease varies considerably between sexes. The final reason is that the male analysis was conducted using the man's 'own' NS-SEC, but the female analysis was done on a 'combined' quasi-household measure.

Given these provisos, although the mortality rates themselves are not comparable, the inequalities, that is the socio-economic gradients, may be compared. Table 7 presents the socio-economic gradients from the study of men alongside those presented above.

There are similarities in the patterns – inequalities in the diseases studied for both sexes are smallest for all cancers, but higher for lung cancer. In this study the gradients for lung cancer appear similar, other studies have also found that the ratio between most and least deprived were similar for males and females.[17] However, others[15,57] have found that women have an apparently greater relative risk than men of lung cancer.

The socio-economic gradient for ischaemic heart disease for women is markedly higher than that observed for men. A very similar pattern was observed in a study by area deprivation.[16,17] The inequalities for women seem also to be higher for respiratory and digestive diseases, but given the provisos mentioned earlier and the breadth of the confidence intervals it is difficult to draw any firm conclusion.

Table 7 Socio-economic gradients for males and females by selected causes

	Men[1]	Women[2]
All Cancer	1.8	1.5 *(1.4, 1.7)*
Cancer of Trachea, bronchus and lung	3.7	3.3 *(2.9, 3.7)*
All circulatory diseases	2.8	4.2 *(3.7, 4.8)*
Ischemic heart disease	2.9	5.4 *(4.6, 6.3)*
Cerebrovascular disease	2.9	3.4 *(2.9, 3.9)*
All respiratory diseases	4.9	6.2 *(5.0, 7.5)*
All digestive diseases	3.5	5.2 *(4.3, 6.2)*

1. From previous article in series[1]
2. 95% confidence interval in brackets

Limitations of the analysis

Owing to the very sparse recording of women's occupations at death after normal retirement age, it was necessary to restrict the analysis to women aged 25–59. Since only 8 per cent of adult women died age 59 or lower in the years 2001–03, this analysis is focused only on a minority of 'premature' deaths.

There are conceptual problems with the use of a 'combined' NS-SEC. NS-SEC is theoretically based on the employment relations of the individual, using the 'most advantaged' NS-SEC of a married couple implies that one can use the most advantaged NS-SEC of marriage partners as a proxy for the life-chances of each partner. This difficulty is fully discussed in the article on female all cause mortality.[4]

The results are sensitive to the adjustment to the deaths not classified to an occupied NS-SEC class. This adjustment was, of necessity, based on a relatively small sample (only 158 deaths) and resulted in much larger confidence intervals for the estimates presented than for the unadjusted figures. The unadjusted estimates are available for comparison in Appendix B, Table B1–B5. The size of the confidence intervals makes it much more difficult to detect differences in smaller sub-samples, and may partly explain why no significant differences between regional socio-economic gradients within causes were detected.

The outcome measure used throughout this series of articles, referred to above as the socio-economic gradient, has a number of limitations. As it is an age-standardised mortality ratio, it does not take account of the size of each class, nor what happens in the intervening classes. More complex outcome measures, such as the slope index of inequality or the GINI coefficient,[58] could potentially be used in future studies.

The death registers during the period of this study did not recognise civil partnerships, and thus women in such partnerships have been treated as 'single'. The identical definition was used to obtain the census populations so the results presented above are consistent. However there is an argument for treating women in partnerships in the same way as married women.

Conclusions

This analysis has estimated standardised mortality rates by 'combined' NS-SEC for women aged 25–59 in the period 2001–03 by region and cause of death.

A clear social gradient is evident for each region. Regional differences in absolute mortality rates were smaller for the most advantaged class, no region had a mortality rate statistically significantly different from

Key findings

- There were socio-economic differences in mortality for women across Wales and all the English regions for the period 2001–03, with higher mortality rates in the more disadvantaged classes
- Regional differences in mortality were small for the most advantaged classes and greatest for the least advantaged
- The socio-economic gradient did not vary considerably from region to region for all-cause mortality – only two regions had gradients that were significantly different from that of England and Wales as a whole
- Among the causes of death analysed there were marked socio-economic differences in all respiratory diseases, all digestive diseases including liver diseases, ischaemic heart disease, all circulatory diseases, cerebrovascular disease and lung cancer
- There was no significant difference between mortality rates for the most and least advantaged for breast cancer

the England and Wales rate. Differences between regions were more pronounced for the least advantaged, but only three regions had rates that were statistically significantly different from the England and Wales rate.

Mortality rates were significantly higher for the North West region than for England and Wales as a whole for most NS-SEC classes, while mortality rates were lower in the South West region for most NS-SEC classes. None of the regional socio-economic gradients (that is the ratio between mortality rates for the least and most advantaged) were statistically significantly higher than that for England and Wales, as a whole.

A social gradient was also evident for all causes of death studied except for breast cancer. For breast cancer the mortality rates for the least and most advantaged were not statistically significantly different. For the other diseases studied there were marked socio-economic differences. The most disadvantaged women had approximately three times the mortality rate of more advantaged women for lung cancer and cerebrovascular disease, around five times as high for ischaemic heart disease and digestive diseases, and six times as high for respiratory diseases.

Mortality rates for the regions with generally the lowest and highest mortality rates were compared for the two largest causes studied, 'all cancers' and 'all circulatory diseases'. There were statistically significant differences between the mortality rates of the two regions in most NS-SEC classes, but no statistically significant differences in the socio-economic gradient between the two regions.

In comparison to men, there were similarities in the pattern of inequalities between diseases. Inequalities were smallest for all cancer and largest for respiratory and digestive diseases. Inequalities for ischaemic heart disease were particularly high for women.

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Appendix A

Table A1 Number of deaths by NS-SEC[1] and age, women aged 25–59, 2001–03

Government Office Regions of England, Wales

Numbers

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[2]	Total
North West									
25–29	13	42	48	12	17	51	32	42	258
30–34	39	65	65	21	35	97	63	55	440
35–39	60	120	90	41	59	127	85	64	647
40–44	85	199	130	72	89	187	148	76	986
45–49	128	347	177	121	153	287	227	114	1,554
50–54	197	562	280	218	263	442	351	121	2,434
55–59	296	722	358	336	420	600	532	151	3,414
Total	818	2,058	1,148	820	1,035	1,793	1,438	623	9,733
Percentage	*8.4*	*21.1*	*11.8*	*8.4*	*10.6*	*18.4*	*14.8*	*6.4*	
North East									
25–29	3	13	15	4	5	21	11	13	86
30–34	9	20	21	7	14	33	21	19	143
35–39	14	42	20	16	22	50	28	22	213
40–44	18	80	46	27	40	66	50	31	358
45–49	53	123	69	41	59	92	94	40	570
50–54	67	221	104	72	122	160	161	53	960
55–59	93	228	130	78	186	249	239	65	1,269
Total	258	727	405	245	447	671	604	243	3,599
Percentage	*7.2*	*20.2*	*11.2*	*6.8*	*12.4*	*18.6*	*16.8*	*6.8*	
Yorkshire and The Humber									
25–29	11	29	25	7	8	48	28	26	182
30–34	23	62	40	19	21	48	32	27	273
35–39	42	101	42	36	36	86	67	37	448
40–44	53	140	70	50	58	142	101	40	654
45–49	105	216	112	80	104	168	136	56	977
50–54	134	343	155	146	151	253	208	58	1,446
55–59	184	428	229	214	280	397	353	85	2,170
Total	552	1,319	673	551	657	1,142	924	330	6,150
Percentage	*9.0*	*21.5*	*11.0*	*9.0*	*10.7*	*18.6*	*15.0*	*5.4*	
East Midlands									
25–29	9	24	17	8	6	22	22	18	125
30–34	24	44	29	17	22	53	30	26	245
35–39	36	85	45	28	30	67	38	29	359
40–44	59	124	54	41	44	103	72	33	531
45–49	90	165	91	67	84	144	98	41	780
50–54	148	320	144	116	128	219	185	56	1,318
55–59	184	431	191	212	235	332	313	78	1,976
Total	550	1,194	572	488	550	942	757	281	5,334
Percentage	*10.3*	*22.4*	*10.7*	*9.2*	*10.3*	*17.7*	*14.2*	*5.3*	
West Midlands									
25–29	14	19	26	8	13	32	23	24	158
30–34	18	52	33	16	22	63	41	30	275
35–39	34	86	52	29	43	66	54	33	397
40–44	88	150	75	44	66	118	97	38	676
45–49	91	198	93	83	102	207	136	52	962
50–54	161	381	187	147	206	323	244	77	1,726
55–59	239	501	230	229	323	452	342	87	2,404
Total	646	1,386	695	555	776	1,262	937	341	6,598
Percentage	*9.8*	*21.0*	*10.5*	*8.4*	*11.8*	*19.1*	*14.2*	*5.2*	
East of England									
25–29	15	46	27	5	9	31	14	18	166
30–34	32	62	47	20	20	46	30	30	287
35–39	53	103	62	33	29	91	47	35	453
40–44	81	126	80	56	48	101	61	33	586
45–49	136	221	126	88	90	161	95	49	965
50–54	199	396	209	161	146	253	149	60	1,574
55–59	308	543	284	246	217	354	198	80	2,231
Total	824	1,498	835	609	559	1,037	594	305	6,262
Percentage	*13.2*	*23.9*	*13.3*	*9.7*	*8.9*	*16.6*	*9.5*	*4.9*	
London									
25–29	31	60	37	17	15	53	27	48	288
30–34	47	107	74	25	30	88	48	74	494
35–39	88	180	115	50	50	114	67	99	763
40–44	121	246	167	68	64	152	100	96	1,014
45–49	150	305	171	92	98	218	114	108	1,256
50–54	187	455	278	176	126	322	189	123	1,857
55–59	248	572	375	269	222	429	307	143	2,565
Total	873	1,925	1,216	698	606	1,377	850	692	8,237
Percentage	*10.6*	*23.4*	*14.8*	*8.5*	*7.4*	*16.7*	*10.3*	*8.4*	

1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

2 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Table A1 continued **Number of deaths by NS-SEC[1] and age, women aged 25–59, 2001–03**

Government Office Regions of England, Wales

Numbers

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[2]	Total
South East									
25–29	29	54	34	8	14	46	28	32	246
30–34	61	108	57	22	30	70	44	39	431
35–39	102	177	87	36	61	90	63	57	673
40–44	155	226	129	78	82	150	82	59	961
45–49	217	334	170	112	116	197	115	70	1,330
50–54	345	643	306	192	206	298	187	103	2,280
55–59	456	871	412	304	339	479	310	127	3,297
Total	1,365	2,414	1,195	752	848	1,329	828	486	9,218
Percentage	*14.8*	*26.2*	*13.0*	*8.2*	*9.2*	*14.4*	*9.0*	*5.3*	
South West									
25–29	10	20	18	6	10	26	20	18	128
30–34	22	59	40	14	11	38	28	17	229
35–39	49	87	51	30	45	58	44	28	393
40–44	76	127	64	45	48	107	52	38	559
45–49	107	232	109	91	92	158	102	48	939
50–54	170	391	160	166	146	236	142	61	1,472
55–59	217	518	218	285	225	318	212	78	2,071
Total	651	1,434	660	638	578	940	601	289	5,791
Percentage	*11.2*	*24.8*	*11.4*	*11.0*	*10.0*	*16.2*	*10.4*	*5.0*	
Wales									
25–29	6	14	12	5	5	17	13	13	84
30–34	9	40	25	13	15	28	19	24	174
35–39	16	55	30	12	21	51	38	33	255
40–44	34	92	49	40	30	61	64	35	405
45–49	49	149	65	59	71	107	88	45	632
50–54	86	213	92	85	113	158	140	49	936
55–59	126	312	166	161	191	239	233	71	1,499
Total	*326*	*873*	*439*	*375*	*445*	*661*	*596*	*270*	*3,985*
Percentage	*8.2*	*21.9*	*11.0*	*9.4*	*11.2*	*16.6*	*14.9*	*6.8*	

1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.
2 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Table A2 **Number of deaths by NS-SEC,[1] cause[2] and age, women aged 25–59, 2001–03**

England and Wales

Numbers

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[3]	Total
All malignant neoplasms									
25–29	54	99	58	21	30	64	32	28	387
30–34	138	270	137	60	65	123	83	44	921
35–39	270	477	218	133	156	248	145	79	1,727
40–44	472	774	366	260	228	423	270	105	2,897
45–49	730	1,289	574	439	468	721	430	182	4,832
50–54	1,142	2,363	1,035	857	867	1,217	843	245	8,568
55–59	1,589	3,110	1,439	1,316	1,371	1,805	1,349	327	12,307
Total	4,395	8,383	3,827	3,086	3,186	4,600	3,150	623	31,639
Percentage	*13.9*	*26.5*	*12.1*	*9.8*	*10.1*	*14.5*	*10.0*	*2.0*	
Breast cancer									
25–29	12	15	9	5	5	5	5	2	59
30–34	47	79	43	17	15	30	24	10	266
35–39	129	197	93	45	51	102	50	24	691
40–44	198	321	143	90	85	136	92	34	1,098
45–49	292	455	192	120	155	207	121	59	1,601
50–54	410	738	305	229	241	341	201	61	2,526
55–59	484	881	380	314	286	372	278	76	3,072
Total	1,572	2,687	1,165	821	839	1,194	771	265	9,313
Percentage	*16.9*	*28.9*	*12.5*	*8.8*	*9.0*	*12.8*	*8.3*	*2.8*	

1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.
2 Younger age bands have been amalgamated where necessary due to avoid statistical disclosure issues.
3 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Table A2 continued Number of deaths by NS-SEC,[1] cause[2] and age, women aged 25–59, 2001–03

England and Wales

Numbers

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[3]	Total
Cancer of trachea, bronchus and lung									
25–39	10	22	11	8	12	14	21	8	107
40–44	24	55	29	23	23	45	28	10	238
45–49	67	137	69	72	72	130	72	27	646
50–54	121	326	155	145	155	229	183	46	1,359
55–59	182	462	232	255	280	420	349	76	2,257
Total	405	1,003	496	503	541	838	653	168	4,607
Percentage	*8.8*	*21.8*	*10.8*	*10.9*	*11.8*	*18.2*	*14.2*	*3.6*	
All circulatory diseases									
25–29	15	38	23	6	8	34	17	22	162
30–34	19	57	54	22	37	65	39	39	333
35–39	57	136	85	53	59	129	78	65	663
40–44	92	216	134	85	113	221	168	83	1,111
45–49	144	385	207	148	195	376	252	119	1,826
50–54	188	590	316	270	298	558	424	171	2,816
55–59	355	840	457	483	577	895	753	235	4,594
Total	870	2,261	1,276	1,068	1,287	2,277	1,730	735	11,505
Percentage	*7.6*	*19.7*	*11.1*	*9.3*	*11.2*	*19.8*	*15.0*	*6.4*	
Ischaemic heart disease									
25–34	4	13	7	3	10	16	10	9	72
35–39	15	23	21	17	16	37	21	16	166
40–44	26	54	42	19	37	72	65	30	345
45–49	41	114	70	54	81	154	112	48	675
50–54	66	220	120	103	132	238	203	77	1,160
55–59	160	374	217	213	285	433	394	122	2,198
Total	311	798	477	409	562	951	806	303	4,616
Percentage	*6.7*	*17.3*	*10.3*	*8.9*	*12.2*	*20.6*	*17.5*	*6.6*	
Cerebrovascular disease									
25–29	5	9	10	3	3	16	4	8	57
30–34	5	27	23	7	13	19	13	11	118
35–39	20	57	31	18	18	40	28	19	230
40–44	38	89	46	32	41	78	49	24	396
45–49	56	168	71	49	61	119	76	32	632
50–54	73	201	104	94	92	166	122	43	894
55–59	106	239	129	152	155	224	173	54	1,232
Total	303	789	413	355	383	661	465	190	3,559
Percentage	*8.5*	*22.2*	*11.6*	*10.0*	*10.8*	*18.6*	*13.1*	*5.4*	
All respiratory diseases									
25–29	3	10	16	5	5	20	9	11	79
30–34	9	19	16	11	16	30	15	16	132
35–39	13	30	20	10	18	37	26	28	183
40–44	21	58	30	23	33	64	45	29	303
45–49	24	64	50	42	41	97	74	50	443
50–54	65	159	88	74	123	198	185	76	968
55–59	91	281	172	139	224	354	309	115	1,686
Total	226	621	393	306	460	800	663	325	3,794
Percentage	*6.0*	*16.4*	*10.3*	*8.1*	*12.1*	*21.1*	*17.5*	*8.6*	
All digestive diseases									
25–29	5	6	12	4	6	19	7	12	72
30–34	16	37	34	11	17	58	36	35	244
35–39	30	75	63	24	39	78	68	54	430
40–44	40	139	93	50	71	146	116	79	733
45–49	81	196	119	80	102	180	188	98	1,045
50–54	91	292	165	105	137	243	188	91	1,311
55–59	103	290	168	151	192	274	225	84	1,487
Total	367	1,035	653	424	564	998	827	454	5,322
Percentage	*6.9*	*19.5*	*12.3*	*8.0*	*10.6*	*18.8*	*15.5*	*8.5*	

1 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

2 Younger age bands have been amalgamated where necessary due to avoid statistical disclosure issues.

3 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Table A3 **Population[1] by NS-SEC[2] and age, women aged 25–59, 2001–03**

Government Office Regions of England, Wales

Thousands

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[3]	Total
North West									
25–29	69	170	109	22	40	98	50	55	611
30–34	110	209	116	41	54	116	61	42	749
35–39	127	227	115	55	61	117	62	34	798
40–44	118	214	103	57	60	101	54	27	733
45–49	103	195	89	54	56	84	47	22	650
50–54	96	188	93	64	59	93	53	19	666
55–59	74	157	87	62	60	95	58	18	612
Total	697	1,361	712	354	389	704	384	218	4,819
Percentage	*14.5*	*28.2*	*14.8*	*7.4*	*8.1*	*14.6*	*8.0*	*4.5*	
North East									
25–29	20	55	39	7	15	39	21	21	218
30–34	31	70	42	13	23	48	27	16	270
35–39	38	81	44	18	27	50	29	13	300
40–44	38	80	41	18	28	45	26	11	287
45–49	33	74	35	17	26	36	23	9	253
50–54	30	69	33	19	27	39	25	8	249
55–59	23	55	29	17	25	36	26	8	218
Total	212	485	263	107	172	293	178	85	1,795
Percentage	*11.8*	*27.0*	*14.7*	*6.0*	*9.6*	*16.3*	*9.9*	*4.7*	
Yorkshire and The Humber									
25–29	51	123	75	18	32	74	44	38	455
30–34	77	150	79	35	45	91	53	28	558
35–39	88	162	78	44	51	91	52	21	586
40–44	83	156	72	44	50	80	45	17	546
45–49	73	142	62	42	45	65	39	14	481
50–54	68	138	66	49	48	75	43	12	500
55–59	52	112	62	46	47	78	47	12	455
Total	492	983	494	278	317	554	323	141	3,581
Percentage	*13.7*	*27.5*	*13.8*	*7.8*	*8.9*	*15.5*	*9.0*	*3.9*	
East Midlands									
25–29	46	107	61	15	28	57	35	26	374
30–34	75	133	66	29	40	70	45	20	478
35–39	88	142	64	37	43	70	44	16	504
40–44	79	132	59	38	42	62	39	12	465
45–49	69	122	53	37	38	55	34	9	418
50–54	66	119	56	44	42	61	39	8	435
55–59	52	102	54	43	42	66	44	9	413
Total	476	857	413	243	277	440	280	100	3,087
Percentage	*15.4*	*27.8*	*13.4*	*7.9*	*9.0*	*14.3*	*9.1*	*3.2*	
West Midlands									
25–29	55	134	79	19	35	78	41	39	479
30–34	87	163	87	35	46	94	51	29	591
35–39	101	171	83	44	50	93	48	23	614
40–44	94	160	72	44	49	82	42	18	561
45–49	83	148	65	44	45	72	38	15	509
50–54	78	140	66	51	49	77	43	13	517
55–59	66	125	69	50	52	86	51	12	512
Total	565	1,041	520	286	325	581	313	149	3,781
Percentage	*15.0*	*27.5*	*13.7*	*7.6*	*8.6*	*15.4*	*8.3*	*3.9*	
East of England									
25–29	74	158	87	20	33	64	33	28	497
30–34	118	189	92	39	41	73	37	21	609
35–39	138	201	88	52	45	75	36	17	653
40–44	123	186	80	52	43	68	30	13	595
45–49	106	174	75	50	40	61	27	11	544
50–54	101	175	84	61	44	70	32	9	577
55–59	79	151	83	59	45	80	37	10	543
Total	739	1,234	588	334	291	491	233	110	4,020
Percentage	*18.4*	*30.7*	*14.6*	*8.3*	*7.2*	*12.2*	*5.8*	*2.7*	
London									
25–29	209	349	165	32	39	90	43	106	1,033
30–34	236	332	153	51	41	96	44	72	1,026
35–39	206	303	138	64	43	94	43	57	946
40–44	151	243	114	61	40	84	37	41	771
45–49	114	205	96	54	34	68	31	29	630
50–54	96	188	95	54	33	67	31	21	585
55–59	72	158	91	47	35	71	34	17	525
Total	1,084	1,777	852	363	263	571	263	342	5,516
Percentage	*19.7*	*32.2*	*15.5*	*6.6*	*4.8*	*10.3*	*4.8*	*6.2*	

1 Population optimised for mortality analysis as described in Methods.

2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

3 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Table A3 continued Population[1] by NS-SEC[2] and age, women aged 25–59, 2001–03

Government Office Regions of England, Wales

Thousands

	Higher managerial and professional	Lower managerial and professional	Intermediate	Small employers and own account workers	Lower supervisory and technical	Semi-routine	Routine	Others[3]	Total
South East									
25–29	126	239	124	28	44	84	45	43	734
30–34	207	287	132	55	55	94	45	30	905
35–39	243	309	129	75	61	97	47	25	986
40–44	222	288	116	75	58	88	40	19	906
45–49	188	265	108	72	52	78	34	15	810
50–54	174	268	123	85	57	89	37	13	847
55–59	137	238	124	83	60	102	45	13	802
Total	1,298	1,894	856	474	386	632	292	158	5,989
Percentage	*21.7*	*31.6*	*14.3*	*7.9*	*6.5*	*10.6*	*4.9*	*2.6*	
South West									
25–29	51	126	68	18	32	62	31	25	413
30–34	84	161	75	38	41	71	36	19	526
35–39	101	175	74	50	45	73	35	16	570
40–44	98	168	68	53	42	67	30	12	539
45–49	86	159	65	54	38	60	26	10	500
50–54	84	162	72	67	41	68	30	9	532
55–59	68	144	71	68	42	78	36	10	518
Total	573	1,096	494	348	283	480	224	101	3,598
Percentage	*15.9*	*30.5*	*13.7*	*9.7*	*7.9*	*13.3*	*6.2*	*2.8*	
Wales									
25–29	23	67	40	9	19	41	22	22	245
30–34	37	85	43	19	27	49	27	17	303
35–39	44	93	42	25	30	50	28	14	326
40–44	42	92	39	26	29	45	23	11	307
45–49	39	86	35	27	26	39	21	10	282
50–54	38	85	35	33	28	41	24	9	295
55–59	31	73	33	32	28	43	25	10	275
Total	254	581	267	172	187	308	171	93	2,033
Percentage	*12.5*	*28.6*	*13.1*	*8.5*	*9.2*	*15.2*	*8.4*	*4.6*	

1 Population optimised for mortality analysis as described in Methods.

2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have been applied as described in Methods.

3 Includes full-time students, never worked, long-term unemployed, inadequately described and not classified for other reasons.

Appendix B

Table B1 Age Standardised mortality rates[1] by NS-SEC[2] without adjustments for under-recording of occupation at death, women aged 25–59, 2001–03

Government Office Regions of England, Wales

Rate per 100,000

	NS-SEC analytic class							Socio-economic gradient[3]	
	1	2	3	4	5	6	7	Without adjustments	With adjustment
North East	112	139 H	133	171	200 H	183	271 H	2.4	2.6
North West	112	143 H	136 H	171 H	200 H	201 H	294 H	2.6	3.0
Yorkshire and The Humber	109	128	117	155	163	168	238	2.2	2.4
East Midlands	113	133	117	154	155 L	169	215 L	1.9	2.1
West Midlands	109	127	114 L	147	188	177	240	2.2	2.5
East of England	113	116 L	123	139	150 L	163	194 L	1.7	2.1
London	105	122	135 H	164 H	168	185 H	233	2.2	3.0
South East	107	121 L	118	120 L	170	153 L	208 L	2.0	2.5
South West	106	120 L	110 L	133 L	165	150 L	206 L	1.9	2.4
Wales	115	136	136	160	183	162	276 H	2.4	2.7
England and Wales	110	128	124	148	175	172	239	2.2	2.6

1 Directly standardised rate using the European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have NOT been applied as described in Methods.
3 Ratio of mortality rates of NS-SEC class 7 to the mortality rate of NS-SEC class 1.

H Rate is statistically significantly higher than that for England and Wales.
L Rate is statistically significantly lower than that for England and Wales.

Table B2 Age-standardised mortality rates[1] from selected malignant neoplasms by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales

Rate per 100,000

NS-SEC analytic class	All malignant neoplasms			Trachea, bronchus and lung			Breast cancer		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	73	71	75	7	6	7	26	25	27
2 Lower managerial and professional	75	73	76	9	8	10	24	23	25
3 Intermediate	66	63	68	8	7	9	20	19	22
4 Small employers and own account workers	82	79	85	13	12	14	22	21	24
5 Lower supervisory and technical	92	89	96	15	14	17	25	23	26
6 Semi-routine	77	75	80	14	13	15	20	19	22
7 Routine	98	95	102	21	19	22	24	22	26
Ratio 7:1	1.4	1.3	1.4	3.0	2.7	3.4	0.9	0.9	Rate

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have NOT been applied.

Table B3 Age-standardised mortality rates[1] from selected circulatory diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales

Rate per 100,000

NS-SEC analytic class	All circulatory diseases			Ischaemic heart disease			Cerebrovascular diseases		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	13	12	14	5	4	5	5	4	5
2 Lower managerial and professional	19	18	20	7	6	7	7	6	7
3 Intermediate	19	18	20	7	6	8	7	6	7
4 Small employers and own account workers	27	25	28	10	9	11	9	8	10
5 Lower supervisory and technical	34	32	36	15	13	16	11	9	12
6 Semi-routine	35	34	37	15	13	16	11	10	12
7 Routine	51	48	54	24	22	26	14	13	15
Ratio 7:1	3.8	3.5	4.1	5.0	4.4	5.7	3.0	2.6	3.4

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have NOT been applied.

Table B4 Age-standardised mortality rates[1] from all respiratory and all digestive diseases by NS-SEC,[2] women aged 25–59, 2001–03

England and Wales

Rate per 100,000

NS-SEC analytic class	All respiratory diseases			All digestive diseases		
	Rate	Lower 95% confidence interval	Upper 95% confidence interval	Rate	Lower 95% confidence interval	Upper 95% confidence interval
1 Higher managerial and professional	3	3	4	5	5	6
2 Lower managerial and professional	5	4	5	8	8	9
3 Intermediate	5	4	6	9	8	10
4 Small employers and own account workers	7	6	8	10	9	11
5 Lower supervisory and technical	11	10	13	14	13	15
6 Semi-routine	11	10	12	14	13	15
7 Routine	18	17	20	24	22	26
Ratio 7:1	5.8	4.9	6.8	4.5	4.0	5.2

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have NOT been applied.

Table B5 Age-standardised mortality rates[1] for selected causes and regions by NS-SEC,[2] women aged 25–59, 2001–03

Rate per 100,000

NS-SEC analytic class	All cancers		All circulatory diseases	
	North West	South West	North West	South West
1 Higher managerial and professional	66	74	15	10
2 Lower managerial and professional	82	72	23	16
3 Intermediate	68	59	22	19
4 Small employers and own account workers	91	80	31	21
5 Lower supervisory and technical	95	90	43	33
6 Semi-routine	88	67	40	31
7 Routine	105	96	64	39
Ratio 7:1	1.6	1.3	4.1	3.8

1 Directly age-standardised using European standard population.
2 NS-SEC assigned by the 'combined' method whereby if married the most advantaged class of either the woman or her husband is used to represent the woman's classification. Adjustments for the under-recording of death have NOT been applied.

Demographic, behavioural and socio-economic influences on the survival of retired people – Evidence from a ten year follow up study of the General Household Survey, 1994

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This article reports on a longitudinal analysis of a sample of residents who were aged 65 or over when interviewed for the 1994 General Household Survey. It investigates the associations between various personal characteristics as established at the interview and the probability of survival during a ten year follow-up period.

Smoking was the most important factor of those measured in determining the likelihood of survival. Smokers at the time of the interview had a mortality risk, on average, 78 per cent greater than non-smokers. Non-drinkers and those who had less than one unit of alcohol per week at the time of the interview appeared to have a higher mortality risk than those who drank between one unit and the recommended government maximum per week. However, further analysis suggested that this result might be a product of the health status of individuals at the time of the interview. Type of housing tenure and region of residence were better predictors of mortality risk than occupation-based social class.

Introduction

Analysis of factors determining health inequalities has traditionally focused on the working population, often as a consequence of the relative ease of data collection for people in those age ranges. It is also important from a policy perspective to measure determinants of ill-health and mortality at older ages and to ascertain whether the various factors have the same relative influence on health as for the working population.

The General Household Survey (GHS) questions a sample of people on a range of subjects relating to their life. These range from socio-economic status to health, car ownership, drinking and smoking habits. This article reports on a secondary analysis of respondents who were aged 65 and over when they were interviewed for the1994 General Household Survey.[1] By tracing the respondents at the National Health Service Central Register (NHSCR), it was possible to investigate the associations between the probability of survival of subjects during a ten year period from the date of the survey interview, and various personal characteristics as established at that interview. The variables in the analysis included personal characteristics such as sex and age, behavioural factors, such as drinking and smoking, and socio-economic factors such as Registrar General's social class, housing tenure and car ownership.

Background

In 1996, the Department of Health commissioned the Office for National Statistics (ONS) Social Survey Division to carry out a follow-up survey of people who were aged 65 and over when interviewed on the 1994 GHS. The aim of the survey was to investigate the feasibility of collecting longitudinal data from this population, with a view to measuring healthy life expectancy.

About 2,500 people aged 65 and over in England and living in private households were interviewed on the 1994 GHS and gave agreement in principle to being approached again. A sub-sample of about 1,000 elderly people were re-interviewed in March and April 1997, on average 2½ years after the original GHS interview. A technical report including a preliminary analysis of the data was published in 1998.[2] The data discussed in this article are exclusively from the original survey.

Respondents were initially interviewed for the GHS between April 1994 and March 1995. Prior to the follow-up interview, respondents to the original interview were traced and flagged on the National Health Service Central Register (NHSCR). The main reason for doing this was to allow the removal from the follow-up sample of respondents who had died since the GHS interview, but all eligible GHS respondents in England were flagged, not just those included in the follow-up. In all, 2,249 respondents were successfully traced and flagged – 92.5 per cent of the names supplied to NHSCR, and 87 per cent of the original sample of GHS respondents.

NHSCR supplied details of deaths notified up to June 2005. The information supplied included the date of death and the cause (coded to the International Classification of Diseases (ICD) Version 9 or 10, depending on the date of death). This additional information was added to the1994 GHS dataset for those aged 65 and over.

No information is available on the profile of those flagged and included in the study relative to those originally interviewed but not included or not traced at NHSCR, but the structure of the final dataset used, for example in terms of proportion of smokers, proportion in poor health, was similar to the total sample as reported in the GHS for 1994.[1]

Since work on this project began, a study using the English Longitudinal Study of Ageing (ELSA)[10] has produced a more detailed survival analysis on a larger dataset. The current study adds value by providing findings based on a different dataset to compare with the ELSA results. It also investigates the effect on the results of potential health selection by repeating the analysis excluding those respondents with reported poor health at the outset.

Methods

The first part of the analysis examines the effect of the variables shown in Box One on mortality rates. For each variable, the percentage of the sample population who died during the follow up period was calculated, along with an age-standardised annual mortality rates for both men and women. This was done using a survival analysis in Stata and the European standard population in five-year age bands.

The second part of the analysis examines the effect of combinations of variables on mortality rates using Cox proportional hazards models.[3] This technique was chosen since it takes account of both the outcome, in terms of whether or not a subject survives the term of the study, and the survival time for those who died during the course of the study. The models are multivariate and hence allow the examination of the effect of one variable while controlling for the effect of others.

The initial model was obtained using a forward stepwise approach to the Cox proportional hazards models. This was done by including age and sex in the initial model and then adding in the variables in Box One in turn and retaining them on the basis of their significance level in the explanation of survival. The order of inclusion was informed by the framework devised by Dahlgren and Whitehead 1991[9] which suggested the following 'layers of influence' on health:

- age, sex, hereditary factors
- individual lifestyle factors (or behaviours)
- social and community networks
- living and working conditions
- general socio-economic, cultural and environmental conditions

While all these factors are interdependent, with health being a cause as well as an effect, this is to some extent a hierarchical structure with the most powerful determinants those 'closest' and most specific to the individual (age and sex followed by behavioural factors).

Likelihood ratio tests were used to determine significance. In order to allow for the non-linear effect of age, methods of representing age were examined, including a quadratic effect and stratifying the model into three age groups. Using this latter method the model was compliant with the Cox proportional hazards assumption.[3]

Subsequent models examined the effect of the potential problem of health selection. This phenomenon is well documented,[4,5,6] and is a particular problem for survival analysis. The problem arises when a subset of the sample has a higher than average *ex ante* probability of death, which is not accounted for in the design of the model. Unless

Box one

Variables included in this analysis

Variables	Definition
Demographic variables	
Marital Status	Married/cohabiting or Other (single/divorced/separated/widowed)
Behavioural variables	
Smoking	Current smoker or non-smoker
Alcohol consumption	Average weekly units 'negligible' less than one unit per week 'moderate' 1 to 21 units per week (men) 1 to 14 units (women) 'heavy' greater than 21 units (men) greater than 14 units (women)
Socio-economic variables	
Tenure	Owns/rents
Availability of car	None/with car
Registrar General's Social Class (RGSC)	Own RGSC Occupation was originally classified to Socio-economic Group (SEG): this was subsequently mapped to RGSC
General environmental variables	
Region	Region of residence Northern and Western including the North, Yorkshire and Humberside North West and West Midlands Southern and Eastern including the East Midlands, East Anglia, Greater London, Outer Metropolitan area, Outer South East and South West.

this factor is corrected for, results examining longer-term mortality rates are likely to be biased and misleading. To examine the size of this effect, a secondary model was fitted solely for the population that was not suffering from a limiting longstanding illness at the beginning of the study, according to the response to a question on health, thus excluding most of those who were already ill when follow-up started. Those who were excluded were both more likely to die sooner and to have a higher propensity to modify their behaviour in response to illness or treatment.

Results

Part 1 Mortality percentages in relation to single variables

Ten years after the GHS interview, 43 per cent of the respondents in the study had died – 50 per cent of men and 39 per cent of women. As would be expected, mortality increased with age, so that 88 per cent of those aged 85 and over at the time of the GHS interview had died ten years later, compared with only 24 per cent of those aged 65–69 (Table 1).

Table 1 **Percentage of deaths during the analysis period and age-standardised[1] annual mortality rate by age group and sex**

England

Age range	Percentage who had died			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total
65–69	31	17	24	*326*	*352*	*678*
70–74	44	34	39	*320*	*375*	*695*
75–79	68	41	52	*158*	*232*	*390*
80–84	72	58	63	*112*	*172*	*284*
85 and over	91	87	88	*58*	*120*	*178*
All aged 65 and over	50	39	43	*974*	*1,251*	*2,225*
Age -standardised annual mortality rate[1]	5.4	3.2	4.1			

1 Directly age-standardised using 5-year age bands and the European standard population. Rates are expressed as the number of deaths per 100 person years.

Demographic variables

Men who were widowed were more likely to have died than men who were married or those who were single, divorced or separated (66 per cent compared with 46 per cent and 48 per cent respectively). Women who were married at the outset had a lower annual mortality rate than those who were not married, a rate of 2.6 per 100 person-years relative to 3.5 per 100 person-years for non-married women (Table 2).

Table 2 **Percentage who died during the analysis period and age-standardised annual mortality rate[1] by sex and marital status**

England

Marital status	Percentage who had died			Age-standardised annual mortality rates[1]			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Married/cohabiting	**46**	**29**	**39**	**5.2**	**2.6**	**4.0**	*704*	*532*	*1,236*
Other	**60**	**45**	**49**	**6.0**	**3.5**	**4.2**	*270*	*719*	*989*
Single/divorced/ separated	48	48	48	4.8	4.5	4.7	*88*	*133*	*221*
Widowed	66	45	50	6.7	3.2	3.9	*182*	*586*	*768*
All aged 65 and over	**50**	**39**	**43**	**5.4**	**3.2**	**4.1**	*974*	*1,251*	*2,225*

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

Behavioural variables

Men and women who were current smokers were more likely to have died than ex-regular smokers and those who had never smoked regularly. Both male and female current smokers had annual mortality rates more than twice those of sample members who had never smoked.

Table 3 **Percentage who died during the analysis period and age-standardised annual mortality rate[1] by sex and cigarette smoking**

England

Smoking status	Percentage who had died			Age-standardised annual mortality rates[1]			Base=100% unweighted sample		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Current smoker	**61**	**46**	**53**	**8.5**	**5.6**	**6.9**	*160*	*186*	*346*
Non-smoker	**48**	**37**	**42**	**4.9**	**2.6**	**3.6**	*814*	*1,064*	*1,878*
Ex-regular smoker	48	38	44	5.3	3.1	4.4	*562*	*388*	*950*
Never or only occasionally smoked	46	37	39	3.9	2.3	2.8	*252*	*676*	*928*
All aged 65 and over	**50**	**39**	**43**	**5.4**	**3.2**	**4.1**	*974*	*1,250*	*2,224*

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

For men the lowest age-standardised mortality rates were found among those who drank 1–21 units per week, both non-drinkers and heavier drinkers having relatively higher mortality rates. For women the pattern differed in that the heaviest drinkers showed a surprisingly low age-standardised mortality rate (2.9 per 100 person-years compared with 2.7 per 100 person-years for lighter drinkers and 3.6 for non-drinkers) (Table 4). However, it should be noted that the figures for drinking more than 14 units for women were based on only 13 deaths.

Table 4 **Percentage who died during the analysis period and age-standardised mortality rate[1] by sex and average weekly alcohol consumption**

England

Alcohol consumption	Percentage who had died			Age-standardised annual mortality rates[1]			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Alcohol (0–1 unit)	**57**	**45**	**49**	**6.3**	**3.6**	**4.3**	*259*	*654*	*913*
None in last year	59	53	54	7.2	4.2	5.1	*100*	*271*	*371*
Less than 1 unit	56	40	45	5.8	3.1	3.9	*159*	*383*	*542*
Alcohol (1–21/14 units)	**46**	**33**	**40**	**4.9**	**2.7**	**3.9**	*553*	*513*	*1,066*
1–10/1–7 units	47	32	39	4.9	2.5	3.7	*381*	*396*	*777*
11–21/8–14 units	44	37	41	4.9	3.5	4.3	*172*	*117*	*289*
More than 21/14 units	**51**	**20**	**40**	**6.9**	**2.9**	**4.8**	*162*	*84*	*246*
All aged 65 and over	**50**	**39**	**43**	**5.4**	**3.2**	**4.1**	*974*	*1,251*	*2,225*

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

Socio-economic variables

Those who owned their home were less likely to have died than those whose accommodation was rented (Table 5). The difference was greater for women than for men.

Those living in households with access to one or more cars were less likely to have died than those with no car (Table 6). Those with access to two cars had lower mortality than those with one.

Table 5 Percentage who died during the analysis period and age-standardised mortality rate[1] by sex and tenure of accommodation

England

Tenure	Percentage who had died			Age-standardised annual mortality rates[1]			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Owns	46	34	40	5.1	2.5	3.7	*682*	*808*	*1,490*
Rents	58	48	52	6.4	4.8	5.3	*288*	*435*	*723*
All aged 65 and over	50	39	43	5.4	3.2	4.1	*970*	*1,243*	*2,213*

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

Table 6 Percentage who died during the analysis period and age-standardised mortality rate[1] by sex and access to car(s)

England

Number of cars	Percentage who had died			Age-standardised annual mortality rates[1]			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
None	**60**	**46**	**50**	7.3	3.7	4.9	***322***	***709***	***1,031***
With car	**45**	**29**	**37**	**4.9**	**2.5**	**3.7**	***652***	***542***	***1,194***
One	48	30	39	5.1	2.6	3.8	*543*	*473*	*1,016*
Two or more	30	19	26	4.2	2.5	3.6	*109*	*69*	*178*
All aged 65 and over	**50**	**39**	**43**	**5.4**	3.2	4.1	***974***	***1,251***	***2,225***

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

Table 7 presents mortality as classified by the Registrar General's Social Class (RGSC), although the occupation data were originally coded using socio-economic group (SEG). The conversion was made so that tests could be made for a conventional socio-economic 'gradient' in mortality which is not possible with SEG. Both men and women were classified using their own social class. Patterns in mortality appeared to be dissimilar between men and women. Among men, those whose main occupation had been a manual one were more likely to have died than those whose job had been non-manual. Among women, however, an increase in mortality with decreased advantage in social class was not apparent.

Table 7 Percentage who died during the analysis period and age-standardised mortality rate[1] by sex and social class

England

Social class	Percentage who had died			Age-standardised annual mortality rates[1]			*Base=100% unweighted sample*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
RGSC I/II	44	35	41	5.0	3.0	4.2	*374*	*270*	*644*
RGSC IIIN	44	36	38	4.7	3.4	3.5	*63*	*370*	*433*
RGSC IIIM	52	35	47	5.7	3.6	5.0	*339*	*108*	*447*
RGSC IV/V	57	41	46	6.4	3.1	4.0	*195*	*444*	*639*
All aged 65 and over	50	38	43	5.4	3.2	4.1	*971*	*1,192*	*2,163*

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.

General environmental variables

Individual regional differences in mortality rates did not show a clear pattern and were not similar for men and women, but sample sizes in individual regions were small. Among both men and women, those who lived in the northern and western regions had a higher mortality rate compared to those in the southern and eastern regions (Table 8).

Table 8 Percentage who died during the analysis period and age-standardised mortality rate[1] by sex and region

England

Region	Percentage who had died			Age-standardised annual mortality rates[1]			Base=100% unweighted sample		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Northern and Western regions[2]	**53**	**40**	**45**	**6.6**	**3.9**	**5.0**	***399***	***519***	***918***
North	50	49	50	5.3	4.0	4.5	*94*	*116*	*210*
Yorkshire/Humberside	52	36	43	6.0	2.6	4.2	*86*	*115*	*201*
North West	51	35	42	7.0	4.4	5.3	*131*	*175*	*306*
West Midlands	58	40	48	9.1	4.4	6.3	*88*	*113*	*201*
Southern and Eastern regions[3]	**48**	**38**	**42**	**4.5**	**2.6**	**3.4**	***575***	***732***	***1,307***
East Midlands	59	43	50	6.0	3.0	4.3	*86*	*101*	*187*
East Anglia	47	34	41	3.9	2.2	3.0	*53*	*41*	*94*
Greater London	46	41	43	5.0	3.6	4.3	*103*	*133*	*236*
Outer Metropolitan Area	48	37	42	4.1	2.4	3.0	*110*	*131*	*241*
Outer South East	44	34	38	3.9	2.3	2.9	*112*	*167*	*279*
South West	44	38	40	4.8	2.2	3.2	*111*	*159*	*270*
All aged 65 and over	**50**	**39**	**43**	**5.4**	**3.2**	**4.1**	***974***	***1251***	***2225***

1 Directly age-standardised using the European standard population. Rates are expressed as the number of deaths per 100 person years.
2 Includes: North, Yorkshire/Humberside, North-West, West Midlands.
3 Includes:East Midlands, East Anglia, Greater London, Outer Metropolitan Area, Outer South East, South West.

Part 2 Multivariate survival analysis

Table 9 displays the optimum models from the Cox multivariate analysis. For each variable the 'hazard ratio' is reported, this ratio can be interpreted as comparing the risk of death between various values of the variable concerned. For example, if a variable in the analysis has three categories, the first category is taken as a reference or baseline and the ratio in the other two categories are compared to the first. Thus, the interpretation of a hazard ratio of 1.20 would be a 20 per cent increase in the risk of death as compared to the reference category.

Table 9 Hazard ratios with respect to mortality over ten years for socio-economic and behavioural variables

England

	Male and female		Males only		Females only	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Sex						
Male	1.00					
Female	0.56***	*(0.49,0.64)*				
Smoking						
Non-smoker	1.00					
Current	1.78***	*(1.51,2.09)*	1.64***	*(1.30,2.06)*	1.98***	*(1.07,1.13)*
Alcohol						
Negligible	1.00					
Moderate	0.77***	*(0.67,0.88)*	0.80*	*(0.66,0.98)*	0.74***	*(0.61,0.98)*
Heavy	0.85	*(0.68,1.06)*	1.00	*(0.77,1.32)*	0.55**	*(0.35,0.87)*
Tenure						
Owns	1.00					
Rents	1.22**	*(1.07,1.39)*	1.16	*(0.96,1.41)*	1.29**	*(1.08,1.54)*
Region						
Southern and Eastern	1.00					
Northern and Western	1.18**	*(1.04,1.33)*	1.26**	*(1.05,1.50)*	1.10	*(0.92,1.32)*

*p <0.05 **p <0.01 ***p <0.001

The most powerful explanatory variables were behavioural, current smokers having a 78 per cent higher risk of death than non-smokers. The pattern for alcohol consumption implies that for men and women in the sample who were moderate drinkers, the risk of death was lower than those whose drinking was negligible.

The socio-economic effect was best captured by the tenure variable, with those who rent having a 22 per cent higher mortality rate than those who own their accommodation. This effect was greater for women than for men. Region of residence was also a significant variable, with those living in the northern and western regions having an 18 per cent higher death rate. This effect was also sex specific, being more important for men than for women.

Other variables failed to attain significance, including RGSC.

Table 10 shows the result of re-estimating the model excluding those who reported a limiting long-standing illness at the beginning of the study.

Table 10

Hazard ratios with respect to mortality over ten years for socio-economic and behavioural variables: results when sample members with a limiting longstanding illness were excluded

England

	Male and female		Males only		Females only	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Sex						
Male	1.00					
Female	0.51***	*(0.42,0.61)*				
Smoking						
Non-Smoker	1.00					
Current	1.65***	*(1.30,2.10)*	1.44*	*(1.04,1.99)*	2.06***	*(1.44,2.97)*
Alcohol						
Negligible	1.00					
Moderate	0.87	*(0.72,1.06)*	0.91	*(0.68,1.21)*	0.82	*(0.63,1.06)*
Heavy	0.96	*(0.70,1.31)*	1.15	*(0.79,1.69)*	0.49	*(0.24,1.01)*
Tenure						
Owns	1.00					
Rents	1.31**	*(1.08,1.58)*	1.25	*(0.95,1.65)*	1.34*	*(1.03,1.75)*
Region						
Southern and Eastern	1.00					
Northern and Western	1.20*	*(1.00,1.44)*	1.32*	*(1.03,1.69)*	1.07	*(0.82,1.40)*

*p <0.05 **p <0.01 ***p <0.001

Following the exclusion of those with a limiting long-term illness at the outset, standard errors of the alcohol coefficients were raised to the extent that the effects ceased to be statistically significant. This suggests that it is possible that the apparent reduced hazard associated with moderate relative to negligible drinking in the initial model may be an artefact of health selection.

Table 11 shows the relative importance to the model of all the factors included, once sample members with a limiting longstanding illness have been excluded.

Table 11

Contributions to the model of various variables as measured by decrease in deviance

England

Model		Deviance	Difference from deviance of adjusted model
Adjusted model (LLTI excluded but all other variables included)		5677.7	
Constrained without	Sex	5731.3	53.6
Constrained without	Smoking	5693.3	15.6
Constrained without	Tenure	5679.8	7.6
Constrained without	Region	5681.6	3.9
Constrained without	Alcohol	5685.3	2.1
Constrained without	Region and Tenure	5689.0	11.3

After age and sex, smoking had the strongest independent effect on mortality risk, controlling for the other covariates in the model. Tenure had the next strongest, and alcohol and region have the weakest effect. The alcohol effect is not statistically significant, but the regional effect is marginally significant.

Social class by occupation was not significant, although, before the other variables were included there were indications of a conventional gradient for men, but not for women (Table 12).

Table 12

Hazard ratios for models with social class (RGSC) and age only, excluding those who reported a limiting longstanding illness at the beginning of the study

England

Social class	Males only		Females Only	
	Hazard Ratio	95% CI	Hazard Ratio	95% CI
RGSC				
I/II	1.00		1.00	
IIIN	1.17	*(0.70,1.96)*	1.16	*(0.82,1.64)*
IIIM	1.27	*(0.96,1.68)*	0.85	*(0.52,1.39)*
IV/V	1.50*	*(1.08,2.08)*	1.00	*(0.70,1.43)*

*p <0.05 **p <0.01 ***p <0.001

Discussion

Framework for analysis

The World Health Organisation's Commission on the Social Determinants of Health devised a framework for understanding the factors determining relative levels of health within a society and the interactions between them[7]. 'The distribution of health and wellbeing is understood to be caused by material circumstances, social cohesion, psychosocial factors, behaviours and biological factors. These undergo complex interactions, and at times are mediated through the health system. These circumstances are in turn influenced by social position, itself a factor of education, occupation, income, gender, ethnicity and race; all influence and are influenced by the socio-political and cultural and social context in which they sit'.[8]

It is not possible within a small sample study like this one to quantify these various interactions, but it is useful to consider the results in the context of such a framework.

An earlier version of the model[9] suggested the following 'layers of influence' on health as stated in the methods section:

- age, sex, hereditary factors
- individual behaviours
- social and community networks
- living and working conditions
- general socio-economic, cultural and environmental conditions

Biological and behavioural factors

Behavioural factors, such as smoking, appeared to be the most important in their effect upon survival, after age and sex, beyond retirement age.

The importance of behavioural factors was also reported in a study of mortality of persons over fifty, based on the English Longitudinal Study of Ageing (ELSA).[10] That study reported on a Cox proportional hazard model constructed for a sample of almost 11,000 individuals. The model suggested that marital status, physical activity, smoking behaviour, alcohol consumption and wealth were all significant factors. The hazard ratio for smokers in the current study was 1.78, similar to that estimated from the

ELSA dataset, (1.78). The results were also similar to those from ELSA for alcohol consumption. The above estimates based on the GHS survey showed a hazard ratio of 0.77 for moderate drinking (defined as between 1 and 21 units per week for men and 1 and 14 units for women) while the ELSA results showed a ratio of 0.80 for 'drinks occasionally'. This apparent protective effect of moderate drinking for an older cohort was also found by a longitudinal study of men and women in Califiornia.[25] In both cases, more 'heavy' drinking, defined here as greater than 21 units per week for men and greater than 14 units for women, and as 'Drinks daily' for ELSA, had a risk not significantly different to non-drinkers. It would have been useful to further divide moderately heavy from heavy drinking (say 22–28 units and greater than 28 units per week for men), in order to determine whether the greater risk of heavy drinking is reflected in the results, but unfortunately the sample was not large enough to allow this.

When those sample members reporting a limiting long-standing illness at the start were excluded from the study, the effect of smoking remained almost unchanged but that of alcohol reduced and became statistically insignificant. This implies that the apparent protective effect of alcohol observed in the initial model may be an artefact brought about by the selective effect of pre-existing health circumstances. The authors of the ELSA report warn that 'the interpretation of the strength of these associations should be made cautiously, because behaviours may change after the onset of disease'. This cautionary note should be re-emphasised here.

A further confounding factor may be that that both men and women in managerial and professional households were more likely than others to drink alcohol regularly.[26] It is possible that drinking patterns among those in higher age groups are capturing other effects of socio-economic status.

Marital status

The WHO framework would suggest that marital status as a key part of an individual's social network should rank just behind behavioural factors in importance in determining health. Simple bivariate analysis of the dataset suggested that fewer married or cohabiting people died than their single counterparts. The current study had 46 per cent deaths for married men compared with 66 per cent for widowed and 48 per cent for other non-married men (followed-up over ten years). Among women, the numbers were 29 per cent for married or cohabiting women, 45 per cent for widowed and 48 per cent for other single women. The ELSA study[10] undertook a similar analysis and found a clearer advantage of marriage for both men and women. For example, the age 75 and over group had 23 per cent deaths among men who were married at the start of the study, and 47 per cent for those who were widowed and 39 per cent for those never married, when followed-up over a period of approximately six years. This apparent advantage of marriage found in the ELSA analysis translated into a significant protective effect when included in a multivariate model, with all non-married categories having significantly raised hazard ratios relative to the married sample members. In the current study, a dichotomous married or cohabiting/non-married (or cohabiting) variable was significant on a bivariate basis, but not when behavioural and other variables were included. This difference in the strength of results between the two studies may be in part a reflection of the greater sample size of ELSA.

Socio-economic factors

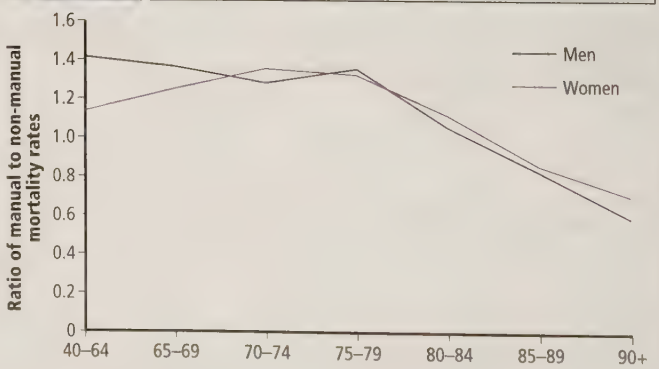
Socio-economic position might be expected to influence health via other factors including material and behavioural ones. It might also be predicted that occupation based socio-economic position would decline in importance after retirement when workplace factors are no longer an immediate influence. Figure 1 shows the ratio of manual to non-manual social class mortality rates for age 40–64 and then in five year age bands from age 65, taken from data published by ONS.[11] Rate ratios are essentially on a plateau around 1.4 between age 45 and 79, although for individual five year periods between 40 and 64 they fluctuate owing to relatively small numbers of deaths. There is a pronounced drop in the ratio from age 80 onwards for both sexes, down to about 1 (equality of non-manual and manual mortality rates), for the 90+ group.

Some studies reported a reduction in the influence on health and mortality of occupation based socio-economic position at older ages,[10,12] while other socio-economic factors remain important in later life[10,12,13] The dataset used in this study allowed us to estimate whether socio-economic differences in mortality persist into later life and how important they are to survival, relative to individual behavioural factors. Socio-economic position was measured by social class based on occupation, but this did not prove to be a powerful influence on relative mortality as it appears to be at younger ages[14,15]. However, there was an indication of a gradient for men suggesting that the effect persisted to some extent. By comparison, in the ELSA study,[10] socio-economic position was measured by three variables – wealth, educational qualifications and the three-class version of the National Statistics Socio-economic Classification (NS-SEC), but when all three of these factors were included in the multivariate model, only wealth was significant.

By contrast, another study of persons aged 50–74 investigating a quality of life indicator by NS-SEC[16] found that 'NS-SEC had greater predictive power for those who were retired than those who were employed… it is as though differences within the world of work become exaggerated after labour market exit'. It was suggested that employment relations during working life influence non-financial benefits, such as area of residence and quality of social networks during employment, and that these benefits become more important upon retirement.

Estimates reported in this article suggest that region (expressed as a dichotomous variable - south and east versus north and west), and tenure were significant influences on mortality and it is possible that these are more effective at capturing socio-economic differences at older ages than occupation based classifications. This is consistent with the findings of several studies which found that occupation based classifications have less explanatory power than alternative socio-economic measures after retirement.[12,17] Marmot and Shipley[12] concluded that 'social differentials in mortality based on an occupational status measure seem to decrease to a greater degree after retirement than those based on a non-work measure' (in this case car ownership). Several studies examining alternative socio-economic classifications found tenure to be a better and more persistent socio-economic indicator for poor health and mortality at older ages than an occupation based measure,[17,18] although tenure has been criticised for its poor level of discrimination, with the majority of people in the 'owner-occupied' group.[19] In a comparative study of European mortality,[20] tenure showed a rapid attenuation in its effect on mortality for English women above eighty years old, but was persistent up to that age. Wealth was also reported by several studies to be a more persistent discriminator than income or occupation based class[10,13]

Figure 1 Relative age-specific mortality rates for manual and non-manual social classes



Source: ONS Longitudinal Study

Access to a car was also found to be an effective discriminator at older ages in some studies[12,17,18] The current study found a difference in the simple percentages of sample deaths according to whether the sample member had access to a car, but this variable was not significant in the multivariate analysis.

The results presented here have some similarities with a study of an American cohort aged between 60 and 94 years old at the outset.[21] This found no effect of socio-economic position as measured by income on mortality, but persistence of the effect of behavioural factors up to the oldest ages with no attenuation.

The use of a combination of variables to measure health inequalities in older adults was proposed in another study,[19] where a range of individual, household and area socio-economic measures were selected according to criteria such as having a theoretical basis, ease of collection, number of gradations, and not likely to be an outcome of health (that is subject to 'reverse causality'). The authors found that a combination of variables – an individual socio-economic indicator such as social class or educational qualifications combined with an area deprivation indicator – produced the best results in terms of predicting self-reported health.

In general, the results of the current study suggest that residual socio-economic factors after the effect of behavioural factors have been taken into account, are not an important influence on survival at older ages. By contrast, the adverse effect of smoking is undiminished.

Limitations of the analysis

The sample of approximately 2,200 was smaller than ideal for testing a wide range of influences on mortality. In particular the capability of using finer gradations of alcohol consumption, particularly when those with a limiting long-term illness were excluded, would have enabled stronger conclusions to be drawn.

There may be coding difficulties with the assignment of RGSC used. The original data was coded according to ONS Socio Economic Group (SEG). An approximation to RGSC was made using the tables in the National Statistics Socio-economic Classification User Manual[22]. Social Classes I and II were combined, as were IV and V.

There were no available variables representing educational qualifications or wealth. These variables have proved useful elsewhere in representing the socio-economic effect in the analysis of mortality in the elderly population.[10,18,19]

Conclusions

The results of this study suggest that, of those factors measured, smoking is the most important in determining prospective mortality risk among the retired. Occupation based socio-economic classifications were not effective discriminators, but region and tenure were. The reduced risk associated with moderate alcohol consumption tended to confirm the results of the much larger ELSA study.[10] A note of caution in the interpretation was introduced when it was found that the measured reduction in mortality risk for moderate drinkers was no longer statistically significant when those with a limiting long-term illness at the beginning of the study were excluded from the follow up analysis, suggesting a possible artefactual explanation.

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Key findings

- The results of this study suggest that smoking is the most important of the factors measured in determining mortality risk among the retired
- Occupation based socio-economic classifications were not found to be predictive of mortality risk, but region of residence and housing tenure were
- Region was an important discriminator for men and tenure for women but not vice-versa
- The apparent reduced mortality risk found for moderate alcohol consumption supported the results of the much larger ELSA study
- However, there were indications that this result may have been caused by some of those with pre-existing health problems being unable to drink as a result of illness or treatment

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Symbols

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: not applicable
- nil or less than half the final digit shown
blank not yet available

Table 1.1 Population and vital rates: international

Selected countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	Austria	Belgium	Bulgaria	Cyprus[1]	Czech Republic	Denmark	Estonia	Finland	France	Germany[2]	Greece[3]	Hungary
Population (thousands)													
1971	55,780	7,501	9,673	8,540	610	9,810	4,963	1,369	4,612	51,251	78,313	8,831	10,370
1976	56,221	7,566	9,818	8,760	498	10,094	5,073	1,435	4,726	52,909	78,337	9,167	10,590
1981	56,344	7,569	9,859	8,891	515	10,293	5,121	1,482	4,800	54,182	78,408	9,729	10,712
1986	56,619	7,588	9,862	8,958	545	10,340	5,120	1,534	4,918	55,547	77,720	9,967	10,631
1991	57,338	7,813	9,979	8,982	587	10,309	5,154	1,566	5,014	57,055	79,984	10,247	10,346
1996	58,095	7,959	10,137	8,363	661[12]	10,315	5,262	1,416	5,125	58,026	81,896	10,709	10,193
2001	59,000	8,021	10,263	8,149	698[12]	10,267	5,349	1,367	5,181	60,964	82,260	10,931	10,200
2002	59,218	8,065	10,310	7,891	706[12]	10,206	5,368	1,361	5,195	61,399	82,440	10,969	10,175
2003	59,440	8,102	10,356	7,846	715[12]	10,203	5,384	1,356	5,206	61,832	82,537	11,006	10,142
2004	59,702	8,140	10,396	7,801	730[12]	10,211	5,398	1,351	5,220	62,252	82,532	11,041	10,117
2005	60,042	8,207	10,446	7,761	749[12]	10,221	5,411	1,348	5,237	62,638	82,501	11,083	10,098
2006	60,413	8,266	10,511	7,719	766[12]	10,251	5,427	1,345	5,256	62,999	82,438	11,125	10,077
2007	60,781	8,299	10,585	7,679	779[12]	10,287	5,447	1,342	5,277	63,392	82,315	11,171	10,066
2008	61,179	8,319	10,667	7,640	789[12]	10,381	5,476	1,341	5,300	63,983	82,218	11,214	10,045
2009	..	8,355	10,750[p]	7,607	797[12,p]	10,468	5,511	1,340	5,326	64,351[p]	82,002[p]	11,260[p]	10,031[p]
Population changes (per 1,000 per annum)													
1971–76	1.6	1.7	3.0	5.2	–36.7	5.8	4.4	9.6	4.9	6.5	0.1	7.6	4.2
1976–81	0.4	0.1	0.8	3.0	6.8	3.9	1.9	6.6	3.1	4.8	0.2	12.3	2.3
1981–86	1.0	0.5	0.1	1.5	11.7	0.9	0.0	7.0	4.9	5.0	–1.8	4.9	–1.5
1986–91	2.5	5.9	2.4	0.5	15.4	–0.6	1.3	4.2	3.9	5.4	5.8	5.6	–5.4
1991–96	2.6	3.7	3.6	–13.8	25.2	0.1	4.2	–19.2	4.4	3.4	4.8	9.0	–3.0
1996–01	3.1	1.6	2.1	–5.1	11.2	–0.9	3.3	–6.9	2.2	10.1	0.9	4.1	0.1
2001–02	3.7	5.5	4.6	–31.7	11.5	–5.9	3.6	–4.4	2.7	7.1	2.2	3.5	–2.5
2002–03	3.7	4.6	4.5	–5.7	12.7	–0.3	3.0	–3.7	2.1	7.1	1.2	3.4	–3.2
2003–04	4.4	4.7	3.9	–5.7	21.0	0.8	2.6	–3.7	2.7	6.8	–0.1	3.2	–2.5
2004–05	5.7	8.2	4.8	–5.1	26.0	1.0	2.4	–2.2	3.3	6.2	–0.4	3.8	–1.9
2005–06	6.2	7.2	6.2	–5.4	22.7	2.9	3.0	–2.2	3.6	5.8	–0.8	3.8	–2.1
2006–07	6.1	2.4	7.0	–5.2	17.0	3.5	3.7	–2.2	4.0	6.2	–1.5	4.1	–1.1
2007–08	6.5	2.4	7.7	–5.1	12.8	9.1	5.3	–0.7	4.4	9.3	–1.2	3.8	-2.1
2008–09	..	4.3	8.2	–4.3	10.1	8.4	6.4	–0.7	4.9	5.8	–2.6	4.1	-1.4
Live birth rate (per 1,000 population per annum)													
1971–75	14.1	13.3	13.4	13.2	17.7	17.8	14.6	15.4	13.1	16.0	10.5	15.8	16.1
1976–80	12.5	11.5	12.5	15.1	19.0	17.1	12.0	15.0	13.6	14.1	10.5	15.6	15.8
1981–85	12.9	12.0	12.0	13.7	20.2	13.5	10.2	15.6	13.4	14.2	10.7	13.3	12.3
1986–90	13.7	11.6	12.1	12.7	18.8	12.7	11.5	15.5	12.7	13.8	9.8	10.6	11.8
1991–95	13.2	11.8	12.0	9.8	16.9	11.1	13.1	10.7	12.9	12.7	10.9	9.9	11.7
1996–00	12.0	10.2	11.2	8.3	13.2	8.8	12.6	8.9	11.3	12.7	9.6	10.2	9.8
2001	11.3	9.4	11.1	8.6	11.6	8.9	12.2	9.3	10.8	13.0	8.9	9.3	9.5
2002	11.3	9.7	10.8	8.5	11.1	9.6	11.9	9.6	10.7	12.7	8.7	9.5	9.5
2003	11.7	9.5	10.8	8.6	11.2	9.2	12.0	9.6	10.9	12.6	8.6	9.5	9.3
2004	12.0	9.7	11.1	9.0	11.3	9.6	12.0	10.4	11.0	12.7	8.6	9.6	9.4
2005	12.0	9.5	11.3	9.2	10.9	10.0	11.9	10.7	11.0	12.7	8.3	9.7	9.7
2006	12.4	9.4	11.5	9.6	11.3	10.3	12.0	11.1	11.2	13.0	8.2	10.0	9.9
2007	12.7	9.2	11.4	9.8	10.9	11.1	11.7	11.8	11.1	12.7	8.3	10.0	9.7
2008	12.9[p]	9.2	11.7	10.2	11.6	11.5	11.8	11.1	11.2	12.8	8.2	10.3	9.9
Death rate (per 1,000 population per annum)													
1971–75	11.8	12.6	12.1	9.8	9.9	12.4	10.1	11.1	9.5	10.7	12.3	8.6	11.9
1976–80	11.9	12.3	11.6	12.9	10.4	12.5	10.5	12.1	9.3	10.2	12.2	8.8	12.9
1981–85	11.7	12.0	11.4	11.3	10.0	12.8	11.1	12.3	9.3	10.1	12.0	9.0	13.7
1986–90	11.4	11.1	10.8	11.9	10.2	12.4	11.5	11.9	9.8	9.5	11.6	9.3	13.5
1991–95	11.1	10.4	10.4	12.9	9.0	11.6	11.9	13.9	9.8	9.1	10.8	9.5	14.3
1996–00	10.6	9.7	10.3	14.0	7.7	10.8	11.2	13.1	9.6	9.2	10.4	9.7	13.9
2001	10.2	9.3	10.1	14.2	6.9	10.5	10.9	13.6	9.4	8.9	10.1	9.4	13.0
2002	10.2	9.4	10.2	14.3	7.3	10.6	10.9	13.5	9.5	8.9	10.2	9.5	13.1
2003	10.3	9.5	10.4	14.3	7.2	10.9	10.7	13.4	9.4	9.2	10.3	9.6	13.4
2004	9.7	9.1	9.8	14.2	7.1	10.5	10.3	13.1	9.1	8.4	9.9	9.5	13.1
2005	9.7	9.1	9.8	14.6	7.2	10.5	10.1	12.9	9.1	8.6	10.1	9.5	13.5
2006	9.4	9.0	9.6	14.7	6.7	10.2	10.2	12.9	9.1	8.4	10.0	9.5	13.1
2007	9.4	9.0	9.5	14.8	6.9	10.1	10.2	13.0	9.3	8.4	10.1	9.8	13.2
2008	9.4[p]	9.0	9.5	14.5	6.4	10.1	9.9	12.5	9.2	8.4	10.3	9.3	13.0

Note: Estimated population (as at 1 January) for European countries - see *Eurostat* Website. Estimated population (mid-year) for all other countries - see the *United Nations Monthly Bulletin of Statistics and the United Nations Demographic Yearbook*. Live birth and death rates – see the *United Nations Monthly Bulletin of Statistics* and the *United Nations Demographic Yearbook* (latest update October 2009)

1 Republic of Cyprus – Data refer to Government controlled areas.
2 Including the former GDR throughout.
3 Greece – Mid-year population excludes armed forces stationed outside the country but includes alien forces stationed in the area.
4 Malta – including work and resident permit holders and foreigners residing in Malta.
5 Poland - excluding civilian aliens within the country but including civilian nationals temporarily outside the country.
6 Portugal – including the Azores and Madeira Islands.
7 Spain – including the Balearic and Canary Islands.
8 For 1971 the European Union consisted of the 6 original member countries. This has since been expanded to include: 9 countries (1976-EU15); 10 countries (2004-EU25); 2 countries (2007-EU27). In this table, all totals include the EU27.
9 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
10 Japan – excluding diplomatic personnel outside the country and foreign military and civilian personnel and their dependants stationed in the area.
11 USA – excluding armed forces overseas and civilian citizens absent from the country for extended periods.
12 Indicates population estimates of uncertain reliability.
13 Data refers to 15 April.
14 Figures were updated taking into account the results of the 2002 All-Russian population census.
15 Mid-year estimates have been adjusted for under-enumeration.
16 For statistical purposes the data for China do not include those for the Hong Kong SAR, Macao SAR and Taiwan province of China. Data for the period 1996 to 2000 have been adjusted on the basis of the Population Census of 2000. Data from 2001 to 2007 have been estimated on the basis of the annual national sample surveys of Population Changes.
17 Rate is for 1990–1995.
p provisional

Table 1.1 continued Population and vital rates: international

Selected countries

Numbers (thousands)/Rates per thousand

Year	Irish Republic	Italy	Latvia	Lithuania	Luxem–bourg	Malta[4]	Nether–lands	Poland[5]	Portugal[6]	Romania	Slovakia	Slovenia	Spain[7]	Sweden
Population (thousands)														
1971	2,992	54,073	2,366	3,160	342	330	13,194	32,800	8,644	20,470	4,540	1,732	34,216	8,098
1976	3,238	55,718	2,465	3,315	361	330	13,774	34,360	9,356	21,450	4,764	1,809	36,118	8,222
1981	3,443	56,502	2,515	3,422	365	322	14,247	35,902	9,851	22,353	4,996	1,910	37,741	8,320
1986	3,543	56,596	2,588	3,560	368	344	14,572	37,456	10,011	22,823	5,179	1,975	38,536	8,370
1991	3,526	56,751	2,662	3,742	387	358	15,070	38,245	9,871	23,185	5,283	2,002	38,920	8,617
1996	3,626[13]	56,860	2,457	3,602	414	380	15,530	38,618	10,058	22,608	5,374	1,991	39,479	8,841
2001	3,833[13]	56,960	2,364	3,487	439	391	15,987	38,254	10,257	22,430	5,379	1,990	40,477	8,883
2002	3,900[13]	56,994	2,346	3,476	444	395	16,105	38,242	10,329	21,833	5,379	1,994	40,964	8,909
2003	3,964[13]	57,321	2,331	3,463	448	397	16,193	38,219	10,407	21,773	5,379	1,995	41,664	8,941
2004	4,028[13]	57,888	2,319	3,446	455	400	16,258	38,191	10,475	21,711	5,380	1,996	42,345	8,976
2005	4,109[13]	58,462	2,306	3,425	461	403	16,306	38,174	10,529	21,659	5,385	1,998	43,038	9,011
2006	4,209[13]	58,752	2,295	3,403	469	405	16,334	38,157	10,570	21,610	5,389	2,003	43,758	9,048
2007	4,313[13]	59,131	2,281	3,385	476	408	16,358	38,125	10,599	21,565	5,394	2,010	44,475	9,113
2008	4,401[13]	59,619	2,271	3,366	484	410	16,405	38,116	10,618	21,529	5,401	2,010	45,283	9,183
2009	4,450[13]	60,045[P]	2,261	3,350	494	414	16,487[P]	38,136	10,620[P]	21,499	5,412	2,032	45,828	9,256
Population changes (per 1,000 per annum)														
1971–76	16.4	6.1	8.4	9.8	10.7	0.0	8.8	9.5	16.5	9.6	9.9	8.9	11.1	3.1
1976–81	12.7	2.8	4.1	6.5	2.5	–4.8	6.9	9.0	10.6	8.4	9.7	11.2	9.0	2.4
1981–86	5.8	0.3	5.8	8.1	1.8	13.7	4.6	8.7	3.2	4.2	7.3	6.8	4.2	1.2
1986–91	–1.0	0.5	5.7	10.2	10.2	8.1	6.8	4.2	–2.8	3.2	4.0	2.7	2.0	5.9
1991–96	5.7	0.4	–15.4	–7.5	13.9	12.3	6.1	2.0	3.8	–5.0	3.4	–1.1	2.9	5.2
1996–01	11.4	0.4	–7.6	–6.4	12.1	5.8	5.9	–1.9	4.0	–1.6	0.2	–0.1	5.1	1.0
2001–02	17.5	0.6	–7.6	–3.2	11.4	10.2	7.4	–0.3	7.0	–26.6	0.0	2.0	12.0	2.9
2002–03	16.4	5.7	–6.4	–3.7	9.0	5.1	5.5	–0.6	7.6	–2.7	0.0	0.5	17.1	3.6
2003–04	16.1	9.9	–5.1	–4.9	15.6	7.6	4.0	–0.7	6.5	–2.8	0.2	0.5	16.3	3.9
2004–05	20.1	9.9	–5.6	–6.1	13.2	7.5	3.0	–0.4	5.2	–2.4	0.9	1.0	16.4	3.9
2005–06	24.3	5.0	–4.8	–6.4	17.4	5.0	1.7	–0.4	3.9	–2.3	0.7	2.5	16.7	4.1
2006–07	24.7	6.5	–6.1	–5.3	14.9	7.4	1.5	–0.8	2.7	–2.1	0.9	3.5	16.4	7.2
2007–08	20.4	8.3	–4.4	–5.6	16.8	4.9	2.9	–0.2	2.0	–1.7	1.3	0.0	18.2	7.7
2008–09	11.1	7.1	–4.4	–4.8	20.7	9.8	5.0	0.5	0.7	–1.4	2.0	10.9	12.0	7.9
Live birth rate (per 1,000 population per annum)														
1971–75	22.2	16.0	14.4	16.4	11.6	17.5	14.9	17.9	20.3	19.3	19.7	16.4	19.2	13.5
1976–80	21.3	12.6	13.9	15.4	11.2	17.0	12.6	19.3	17.9	18.9	20.3	16.3	17.1	11.6
1981–85	19.2	10.6	15.2	16.0	11.6	15.3	12.2	19.0	14.5	15.6	18.0	14.2	12.8	11.3
1986–90	15.8	9.8	15.3	15.8	12.2	16.0	12.8	15.5	11.9	15.8	15.8	12.3	10.8	13.2
1991–95	14.0	9.6	10.8	13.1	13.3	14.0	12.8	12.9	11.4	11.1	13.3	10.0	9.8	13.3
1996–00	14.2	9.2	8.0	10.4	13.1	12.0	12.6	10.4	11.3	10.4	10.7	9.1	9.5	10.2
2001	15.1	9.2	8.3	9.1	12.4	10.1	12.6	9.6	11.0	9.8	9.5	8.8	10.0	10.3
2002	15.4	9.4	8.6	8.7	12.0	9.9	12.5	9.3	11.0	9.7	9.5	8.8	10.1	10.7
2003	15.5	9.4	9.0	8.9	11.7	10.2	12.3	9.2	10.8	9.8	9.6	8.7	10.5	11.1
2004	15.3	9.7	8.8	8.9	11.9	9.7	11.9	9.3	10.4	10.0	10.0	9.0	10.6	11.2
2005	14.9	9.5	9.3	8.9	11.5	9.6	11.5	9.5	10.4	10.2	10.1	9.1	10.7	11.2
2006	15.2	9.5	9.7	9.2	11.7	9.6	11.3	9.8	10.0	10.2	10.0	9.4	10.9	11.7
2007	16.3	9.5	10.2	9.6	11.4	9.5	11.1	10.2	9.7	10.0	10.1	9.8	11.0	11.7
2008	17.0	9.6	10.7	10.5	11.6	10.0	11.2	10.9	9.8	10.4	10.6	10.4	11.3	11.9
Death rate (per 1,000 population per annum)														
1971–75	11.0	9.8	11.6	9.0	12.2	9.0	8.3	8.4	11.0	9.4	9.4	10.0	8.5	10.5
1976–80	10.2	9.7	12.6	10.1	11.5	9.0	8.1	9.2	10.1	9.8	9.8	9.8	8.0	10.9
1981–85	9.4	9.5	12.8	10.6	11.2	8.2	8.3	9.6	9.6	10.3	10.1	10.3	7.7	11.0
1986–90	9.1	9.4	12.4	10.3	10.5	7.4	8.5	10.0	9.6	10.8	10.1	9.6	8.2	11.1
1991–95	8.8	9.7	14.8	12.0	9.8	7.6	8.8	10.2	10.4	11.5	9.9	9.7	8.7	10.9
1996–00	8.5	9.8	13.9	11.5	9.0	7.7	8.8	9.8	10.5	12.0	9.7	9.5	9.1	10.6
2001	7.9	9.6	14.0	11.6	8.4	7.6	8.7	9.5	10.2	11.6	9.7	9.3	8.9	10.5
2002	7.6	9.8	13.9	11.8	8.4	7.8	8.8	9.4	10.2	12.4	9.6	9.4	8.9	10.6
2003	7.3	10.2	13.9	11.9	9.0	7.9	8.7	9.6	10.4	12.3	9.7	9.7	9.2	10.4
2004	7.1	9.4	13.8	12.0	7.8	7.5	8.4	9.5	9.7	11.9	9.6	9.3	8.7	10.1
2005	6.8	9.7	14.2	12.8	7.8	7.8	8.4	9.7	10.2	12.1	9.9	9.4	8.9	10.2
2006	6.5	9.5	14.5	13.2	8.0	7.9	8.3	9.7	9.6	12.0	9.9	9.1	8.4	10.0
2007	6.5	9.7	14.5	13.5	8.1	7.6	8.1	9.9	9.8	11.7	10.0	9.2	8.6	10.0
2008	6.4	9.8	13.8	13.1	7.4	7.7	8.2	10.0	9.8	11.8	9.8	9.1	8.4	9.9

See notes on first page of table.

Table 1.1 continued Population and vital rates: international

Selected countries

Numbers (thousands)/Rates per thousand

Year	EU[8]	Russian Federation	Australia	Canada	New Zealand	China	India[9]	Japan[10]	USA[11]	Year
Population (thousands)										
1971	438,728	130,934	13,067	22,026	2,899	852,290[16]	551,311	105,145	207,661	1971
1976	450,468	135,027	14,033	23,517	3,163	937,170[16]	617,248	113,094	218,035	1976
1981	459,807	139,225	14,923	24,900	3,195	1,008,460[16]	675,185	117,902	229,958	1981
1986	465,336	144,154	16,018	26,204	3,317	1,086,733[16]	767,199	121,672	240,680	1986
1991	473,094	148,245	17,284	28,031	3,477	1,170,100[16]	851,897	123,964	252,639	1991
1996	478,084	148,160[14]	18,311[15]	29,611[15]	3,732	1,217,550[16]	942,157[12]	125,757	269,394	1996
2001	483,782	145,976[14]	19,413[15]	31,021[15]	3,881	1,271,850[12,16]	1,034,931[12]	127,149	285,115	2001
2002	484,614	145,306[14]	19,651[15]	31,373[15]	3,949	1,280,400[12,16]	1,051,258[12]	127,445	287,888	2002
2003	486,617	144,566[14]	19,895[15]	31,676[15]	4,027	1,288,400[12,16]	1,068,065[12]	127,718	290,448	2003
2004	488,757	143,821[14]	20,127[15]	31,995[15]	4,088	1,296,075[12,16]	1,084,757[12]	127,761	293,192	2004
2005	491,024	143,114[14]	20,395[15]	32,312[15]	4,134	1,303,720[12,16]	1,101,328[12]	127,773	295,896	2005
2006	492,975	142,487[14]	20,698[15]	32,649[15]	4,185	1,311,020[12,16]	1,117,734[12]	127,756	298,755	2006
2007	495,090	142,115[14]	21,072[15]	32,976[15]	4,228	1,324,655[12,16]	1,134,023[12]	127,772	301,621	2007
2008	497,660	141,900[14,P]	21,430[15,P]	33,310[15,P]	4,270	..	1,150,000[12]	127,700	..	2008
2009	499,795	..	..	..	..	..	..	..	..	2009
Population changes (per 1,000 per annum)										
1971–76	5.4	6.3	14.8	13.5	18.2	19.9	23.9	15.1	10.0	1971–76
1976–81	4.1	6.2	12.7	11.8	2.0	15.2	18.8	8.5	10.9	1976–81
1981–86	2.4	7.1	14.7	10.5	7.6	15.5	27.3	6.4	9.3	1981–86
1986–91	3.3	5.7	15.8	13.9	9.6	15.3	22.1	3.8	9.9	1986–91
1991–96	2.1	–1.7	11.9	11.3	14.7	10.3	21.1	2.9	12.1	1991–96
1996–01	2.4	–2.9	12.0	9.5	7.9	8.9	19.7	2.2	11.7	1996–01
2001–02	1.7	–4.6	12.3	11.3	17.5	6.7	15.8	2.3	9.7	2001–02
2002–03	4.1	–5.1	12.4	9.7	19.8	6.2	16.0	2.1	8.9	2002–03
2003–04	4.4	–5.2	11.7	10.1	15.1	6.0	15.6	0.3	9.4	2003–04
2004–05	4.6	–4.9	13.4	9.9	11.3	5.9	15.3	0.1	9.2	2004–05
2005–06	4.0	–4.4	14.9	10.4	12.3	5.6	14.9	–0.1	9.7	2005–06
2006–07	4.3	–2.6	18.1	10.0	10.3	10.4	14.6	0.1	9.6	2006–07
2007–08	5.2	–1.5	17.0	10.1	9.9	..	14.1	–0.6	..	2007–08
2008–09	4.3	..	..	..	..	..	..	..	..	2008–09
Live birth rate (per 1,000 population per annum)										
1971–75	..	..	18.8	15.9	20.4	27.2	35.6	18.6	15.3	1971–75
1976–80	..	..	15.7	15.5	16.8	18.6	33.4	14.9	15.2	1976–80
1981–85	..	..	15.6	15.1	15.8	19.2	..	12.6	15.7	1981–85
1986–90	..	..	15.1	14.8	17.1	..	..	10.6	16.0	1986–90
1991–95	11.4	10.2	14.7	13.6	16.9	18.5[17]	..	9.7	13.1	1991–95
1996–00	10.6	8.6	13.4	11.4	14.9	..	..	9.5	14.3	1996–00
2001	10.4	9.0	12.7	10.8	14.4	13.4[16]	25.4	9.2	14.1	2001
2002	10.3	9.6	12.7	10.5	13.7	12.9[16]	25.0	9.2	14.0	2002
2003	10.3	10.2	12.6	10.6	13.9	12.4[16]	24.8	8.9	14.1	2003
2004	10.4	10.4	12.6	10.5	14.2	12.3[16]	24.1	8.8	14.0	2004
2005	10.4	10.2	12.7	10.6	14.0	12.4[16]	23.8	8.4	14.0	2005
2006	10.6	10.4	12.8	10.7	14.1	12.1[16]	23.5	8.7	14.3	2006
2007	10.6	11.3	13.5	..	15.1	12.0[16]	23.1	8.6	14.3	2007
2008	10.9	12.1	..	..	15.1	..	..	8.7	..	2008
Death rate (per 1,000 population per annum)										
1971–75	..	..	8.2	7.4	8.4	7.3	15.5	6.4	9.1	1971–75
1976–80	..	..	7.6	7.2	8.2	6.6	13.8	6.1	8.7	1976–80
1981–85	..	..	7.3	7.0	8.1	6.7	..	6.1	8.6	1981–85
1986–90	..	..	7.2	7.3	8.2	..	..	6.4	8.7	1986–90
1991–95	10.4	13.7	7.0	7.8	7.8	..	..	7.0	8.7	1991–95
1996–00	10.2	14.3	6.9	7.2	7.2	..	..	7.4	8.5	1996–00
2001	9.9	15.4	6.6	7.1	7.2	6.4[16]	8.4	7.6	8.5	2001
2002	9.9	16.1	6.8	7.1	7.1	6.4[16]	8.1	7.8	8.5	2002
2003	10.1	16.4	6.6	7.1	7.0	6.4[16]	8.0	8.0	8.4	2003
2004	9.7	16.0	6.6	7.1	7.0	6.4[16]	7.5	8.1	8.2	2004
2005	9.8	16.1	6.4	7.2	6.5	6.5[16]	7.6	8.6	..	2005
2006	..	15.2	6.4	7.1	6.7	6.8[16]	7.5	8.6	..	2006
2007	..	14.6	6.5	..	6.7	6.9[16]	7.4	8.8	..	2007
2008	9.7	14.6	..	..	6.8	..	..	9.1	..	2008

See notes on first page of table.

Table 1.2 Mid Year Population: national

Constituent countries of the United Kingdom

Numbers (thousands) and percentage age distribution

Mid-year	United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland
Estimates							
1971	55,928	54,388	49,152	46,412	2,740	5,236	1,540
1976	56,216	54,693	49,459	46,660	2,799	5,233	1,524
1981	56,357	54,815	49,634	46,821	2,813	5,180	1,543
1986	56,684	55,110	49,999	47,188	2,811	5,112	1,574
1991	57,439	55,831	50,748	47,875	2,873	5,083	1,607
1993	57,714	56,078	50,986	48,102	2,884	5,092	1,636
1994	57,862	56,218	51,116	48,229	2,887	5,102	1,644
1995	58,025	56,376	51,272	48,383	2,889	5,104	1,649
1996	58,164	56,503	51,410	48,519	2,891	5,092	1,662
1997	58,314	56,643	51,560	48,665	2,895	5,083	1,671
1998	58,475	56,797	51,720	48,821	2,900	5,077	1,678
1999	58,684	57,005	51,933	49,033	2,901	5,072	1,679
2000	58,886	57,203	52,140	49,233	2,907	5,063	1,683
2001	59,113	57,424	52,360	49,450	2,910	5,064	1,689
2002	59,323	57,627	52,572	49,652	2,920	5,055	1,697
2003	59,557	57,855	52,797	49,866	2,931	5,057	1,703
2004	59,846	58,136	53,057	50,111	2,946	5,078	1,710
2005	60,238	58,514	53,419	50,466	2,954	5,095	1,724
2006	60,587	58,846	53,729	50,763	2,966	5,117	1,742
2007	60,975	59,216	54,072	51,092	2,980	5,144	1,759
2008	61,383	59,608	54,440	51,446	2,993	5,169	1,775
2008 by age group **(percentages)**							
0–4	*6.0*	*6.0*	*6.1*	*6.1*	*5.6*	*5.5*	*6.7*
5–15	*12.7*	*12.7*	*12.7*	*12.7*	*12.9*	*12.2*	*14.7*
16–44	*39.9*	*39.9*	*40.0*	*40.1*	*37.3*	*39.0*	*41.0*
45–64M/59F	*22.1*	*22.1*	*22.0*	*22.0*	*22.9*	*23.6*	*20.9*
65M/60F–74	*11.4*	*11.5*	*11.4*	*11.3*	*12.8*	*12.1*	*10.3*
75 and over	*7.8*	*7.8*	*7.8*	*7.8*	*8.6*	*7.6*	*6.4*
Projections[1]							
2011	62,649	60,834	55,601	52,577	3,024	5,233	1,815
2016	64,773	62,900	57,576	54,472	3,104	5,324	1,874
2021	66,958	65,031	59,620	56,433	3,187	5,411	1,927
2026	69,051	67,080	61,597	58,334	3,263	5,483	1,971
2031	70,933	68,929	63,397	60,071	3,326	5,532	2,005
2031 by age group **(percentages)**							
0–4	*5.6*	*5.6*	*5.6*	*5.7*	*5.2*	*4.9*	*5.6*
5–15	*12.4*	*12.4*	*12.5*	*12.5*	*12.1*	*11.5*	*13.3*
16–44	*36.4*	*36.4*	*36.5*	*36.7*	*34.2*	*34.6*	*35.4*
45–64[2]	*23.3*	*23.3*	*23.2*	*23.2*	*23.1*	*24.3*	*24.1*
65–74[2]	*10.6*	*10.6*	*10.5*	*10.4*	*11.7*	*12.2*	*10.7*
75 and over	*11.7*	*11.7*	*11.7*	*11.6*	*13.6*	*12.5*	*10.9*

1 National projections based on mid-2006 population estimates.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes. Between 2024 and 2026, state pension age will increase from 65 years to 66 years for both men and women.

Table 1.3 Population: subnational

Government Office Regions of England — *Numbers (thousands) and percentage age distribution*

Mid-year	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Estimates									
1971	2,679	7,108	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,594	6,833	4,884	3,908	5,180	4,999	6,774	7,468	4,548
1991	2,587	6,843	4,936	4,011	5,230	5,121	6,829	7,629	4,688
1993	2,594	6,847	4,954	4,056	5,246	5,154	6,844	7,673	4,734
1994	2,589	6,839	4,960	4,072	5,249	5,178	6,874	7,712	4,757
1995	2,583	6,828	4,961	4,092	5,257	5,206	6,913	7,763	4,782
1996	2,576	6,810	4,961	4,108	5,263	5,233	6,974	7,800	4,793
1997	2,568	6,794	4,958	4,120	5,262	5,267	7,015	7,853	4,827
1998	2,561	6,792	4,958	4,133	5,271	5,302	7,065	7,889	4,849
1999	2,550	6,773	4,956	4,152	5,272	5,339	7,154	7,955	4,881
2000	2,543	6,774	4,959	4,168	5,270	5,375	7,237	7,991	4,917
2001	2,540	6,773	4,977	4,190	5,281	5,400	7,322	8,023	4,943
2002	2,541	6,778	5,002	4,222	5,295	5,433	7,362	8,047	4,973
2003	2,541	6,800	5,028	4,254	5,312	5,475	7,364	8,087	5,005
2004	2,542	6,820	5,064	4,291	5,327	5,511	7,389	8,125	5,042
2005	2,550	6,840	5,108	4,328	5,351	5,563	7,456	8,185	5,087
2006	2,556	6,853	5,142	4,364	5,367	5,607	7,512	8,238	5,124
2007	2,564	6,864	5,177	4,400	5,382	5,661	7,557	8,309	5,178
2008	2,575	6,876	5,213	4,433	5,411	5,729	7,620	8,380	5,209
2008 by age group (percentages)									
0–4	*5.6*	*6.0*	*5.9*	*5.8*	*6.2*	*6.0*	*7.2*	*5.9*	*5.4*
5–15	*12.3*	*12.9*	*12.7*	*12.6*	*13.2*	*13.0*	*12.1*	*13.0*	*12.3*
16–44	*38.7*	*39.2*	*40.2*	*39.1*	*38.9*	*38.4*	*48.1*	*38.6*	*36.8*
45–64M/59F	*23.3*	*22.4*	*22.0*	*22.7*	*22.0*	*22.4*	*18.8*	*22.6*	*23.0*
65M/60F–74	*12.0*	*11.8*	*11.5*	*11.9*	*11.8*	*11.9*	*8.1*	*11.6*	*13.0*
75 and over	*8.0*	*7.7*	*7.7*	*7.9*	*7.9*	*8.3*	*5.7*	*8.3*	*9.5*
Projections[1]									
2006	2,556	6,853	5,142	4,364	5,367	5,607	7,512	8,238	5,124
2011	2,594	7,014	5,377	4,591	5,506	5,890	7,817	8,550	5,368
2016	2,638	7,193	5,621	4,825	5,662	6,179	8,114	8,871	5,620
2021	2,685	7,377	5,866	5,060	5,824	6,471	8,390	9,202	5,882
2026	2,730	7,546	6,101	5,286	5,977	6,747	8,633	9,523	6,139
2031	2,769	7,696	6,319	5,491	6,114	6,997	8,858	9,814	6,374
2031 by age group (percentages)									
0–4	*5.2*	*5.5*	*5.6*	*5.3*	*5.9*	*5.5*	*6.7*	*5.5*	*5.0*
5–15	*12.1*	*12.6*	*12.5*	*12.3*	*13.2*	*12.6*	*12.6*	*12.7*	*11.8*
16–44	*35.6*	*36.3*	*37.7*	*35.6*	*35.7*	*34.9*	*43.7*	*35.1*	*33.9*
45–64[2]	*23.0*	*23.2*	*23.0*	*23.8*	*22.8*	*23.7*	*22.9*	*23.6*	*23.7*
65–74[2]	*11.7*	*10.9*	*10.2*	*11.0*	*10.5*	*10.9*	*7.4*	*10.8*	*11.8*
75 and over	*12.4*	*11.5*	*10.9*	*12.0*	*11.9*	*12.4*	*6.7*	*12.4*	*13.9*

1 These projections are based on the 2006 population estimates and are consistent with the 2006-based national projections produced by the Office for National Statistics.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.
Between 2024 and 2026, state pension age will increase from 65 years to 66 years for both men and women.

Table 1.4 Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F	65M/60F and over
United Kingdom																
Persons																
1981	56,357	730	2,726	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,677	..	..	12,543	33,780	10,035
1986	56,684	748	2,886	7,143	9,200	8,007	7,711	9,212	3,069	5,020	2,971	716	..	11,645	34,725	10,313
1991	57,439	790	3,077	7,141	8,168	8,898	7,918	9,500	2,888	5,067	3,119	626	248	11,685	35,197	10,557
1996	58,164	719	3,019	7,544	7,231	9,131	7,958	10,553	2,785	5,066	3,129	711	317	12,018	35,498	10,649
2001	59,113	663	2,819	7,624	7,261	8,475	8,846	11,168	2,884	4,947	3,296	753	377	11,863	36,406	10,845
2002	59,323	661	2,753	7,603	7,406	8,264	9,004	11,307	2,892	4,967	3,344	738	388	11,785	36,622	10,916
2003	59,557	680	2,706	7,546	7,573	8,084	9,105	11,412	2,949	5,061	3,398	766	399	11,720	36,826	11,012
2004	59,846	705	2,686	7,475	7,739	7,954	9,185	11,507	3,027	5,028	3,431	702	409	11,645	37,083	11,117
2005	60,238	716	2,713	7,373	7,886	7,935	9,245	11,616	3,114	5,046	3,420	755	419	11,589	37,418	11,232
2006	60,587	732	2,765	7,241	8,020	7,896	9,262	11,744	3,240	5,029	3,416	820	423	11,537	37,707	11,344
2007	60,975	756	2,837	7,128	8,156	7,859	9,248	11,728	3,483	5,058	3,424	873	425	11,509	37,904	11,562
2008	61,383	788	2,912	7,054	8,216	7,900	9,152	11,792	3,639	5,155	3,440	918	417	11,517	38,075	11,791
Males																
1981	27,412	374	1,400	4,184	4,596	4,035	3,409	4,711	1,376	2,264	922	..	..	6,439	17,646	3,327
1986	27,542	384	1,478	3,664	4,663	4,022	3,864	4,572	1,463	2,206	1,060	166	..	5,968	18,142	3,432
1991	27,909	403	1,572	3,655	4,146	4,432	3,949	4,732	1,390	2,272	1,146	166	46	5,976	18,303	3,630
1996	28,287	369	1,547	3,857	3,652	4,540	3,954	5,244	1,360	2,311	1,187	201	65	6,148	18,375	3,764
2001	28,832	338	1,445	3,906	3,672	4,215	4,382	5,534	1,412	2,308	1,308	227	85	6,077	18,827	3,928
2002	28,964	338	1,408	3,897	3,758	4,114	4,462	5,594	1,414	2,325	1,338	226	89	6,037	18,949	3,978
2003	29,109	349	1,384	3,868	3,855	4,024	4,514	5,646	1,440	2,347	1,369	219	94	6,006	19,075	4,028
2004	29,278	362	1,376	3,832	3,953	3,960	4,546	5,691	1,479	2,365	1,392	223	98	5,971	19,229	4,078
2005	29,497	367	1,389	3,781	4,030	3,952	4,581	5,745	1,522	2,380	1,400	247	103	5,941	19,426	4,130
2006	29,694	374	1,416	3,709	4,108	3,940	4,586	5,804	1,584	2,379	1,413	273	106	5,912	19,611	4,171
2007	29,916	387	1,453	3,649	4,193	3,936	4,578	5,786	1,701	2,398	1,432	295	108	5,895	19,789	4,233
2008	30,151	404	1,492	3,610	4,215	3,985	4,533	5,815	1,778	2,447	1,452	313	108	5,898	19,933	4,321
Females																
1981	28,946	356	1,327	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,756	..	..	6,104	16,134	6,708
1986	29,142	364	1,408	3,480	4,538	3,985	3,847	4,639	1,606	2,814	1,911	550	..	5,678	16,583	6,881
1991	29,530	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,972	460	202	5,709	16,894	6,927
1996	29,877	350	1,472	3,687	3,579	4,591	4,005	5,309	1,426	2,755	1,942	509	252	5,870	17,123	6,885
2001	30,281	324	1,375	3,718	3,589	4,260	4,465	5,634	1,473	2,640	1,987	526	292	5,786	17,579	6,917
2002	30,359	323	1,346	3,706	3,642	4,150	4,542	5,713	1,478	2,642	2,006	513	299	5,748	17,673	6,938
2003	30,449	331	1,322	3,678	3,718	4,060	4,590	5,766	1,509	2,654	2,029	487	305	5,714	17,751	6,984
2004	30,568	343	1,310	3,642	3,785	3,993	4,639	5,816	1,548	2,662	2,040	479	310	5,674	17,854	7,039
2005	30,741	349	1,324	3,592	3,856	3,983	4,663	5,871	1,591	2,666	2,020	509	316	5,647	17,992	7,102
2006	30,893	357	1,349	3,532	3,912	3,956	4,675	5,940	1,656	2,650	2,002	547	317	5,625	18,096	7,172
2007	31,059	368	1,383	3,480	3,963	3,924	4,670	5,942	1,782	2,660	1,992	578	317	5,615	18,116	7,329
2008	31,232	385	1,420	3,443	4,001	3,916	4,619	5,978	1,861	2,708	1,988	605	309	5,620	18,141	7,471
England and Wales																
Persons																
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	383	157	10,910	29,796	8,928
1986	49,999	654	2,522	6,226	8,061	7,052	6,856	8,136	2,725	4,470	2,655	461	182	10,161	30,647	9,190
1991	50,748	698	2,713	6,248	7,165	7,862	7,022	8,407	2,553	4,506	2,790	561	223	10,247	31,100	9,400
1996	51,410	637	2,668	6,636	6,336	8,076	7,017	9,363	2,457	4,496	2,801	639	285	10,584	31,353	9,474
2001	52,360	589	2,502	6,740	6,387	7,536	7,816	9,898	2,549	4,377	2,947	677	340	10,495	32,226	9,639
2002	52,572	589	2,445	6,728	6,518	7,357	7,964	10,018	2,555	4,394	2,989	664	351	10,437	32,435	9,700
2003	52,797	607	2,404	6,682	6,679	7,203	8,058	10,104	2,606	4,422	3,037	634	360	10,388	32,626	9,783
2004	53,057	629	2,390	6,618	6,836	7,090	8,133	10,177	2,675	4,445	3,063	632	370	10,326	32,856	9,875
2005	53,419	639	2,415	6,528	6,974	7,078	8,194	10,264	2,757	4,461	3,052	680	379	10,278	33,164	9,977
2006	53,729	653	2,462	6,412	7,095	7,040	8,213	10,369	2,874	4,444	3,045	740	382	10,235	33,417	10,077
2007	54,072	675	2,528	6,314	7,219	6,999	8,209	10,347	3,092	4,468	3,049	787	385	10,212	33,588	10,271
2008	54,440	703	2,594	6,250	7,275	7,031	8,128	10,398	3,235	4,556	3,062	829	378	10,223	33,738	10,479
Males																
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	94	32	5,601	15,589	2,970
1986	24,311	335	1,292	3,194	4,083	3,542	3,438	4,053	1,302	1,972	951	115	35	5,208	16,031	3,072
1991	24,681	356	1,385	3,198	3,638	3,920	3,504	4,199	1,234	2,027	1,029	150	42	5,240	16,193	3,248
1996	25,030	327	1,368	3,393	3,202	4,020	3,489	4,659	1,205	2,059	1,067	182	59	5,416	16,247	3,367
2001	25,574	301	1,281	3,453	3,231	3,758	3,881	4,907	1,252	2,052	1,175	206	77	5,376	16,688	3,510
2002	25,704	301	1,249	3,448	3,311	3,672	3,957	4,958	1,253	2,067	1,202	204	81	5,346	16,804	3,554
2003	25,841	312	1,230	3,425	3,399	3,594	4,007	5,002	1,276	2,085	1,229	198	85	5,324	16,920	3,597
2004	25,995	323	1,225	3,394	3,493	3,538	4,036	5,037	1,310	2,100	1,248	202	89	5,295	17,060	3,640
2005	26,197	327	1,237	3,348	3,565	3,530	4,073	5,080	1,351	2,113	1,256	224	94	5,270	17,241	3,685
2006	26,371	334	1,261	3,284	3,636	3,517	4,080	5,130	1,407	2,111	1,267	248	96	5,245	17,405	3,722
2007	26,569	346	1,295	3,231	3,715	3,508	4,076	5,110	1,511	2,127	1,283	268	99	5,230	17,563	3,775
2008	26,780	360	1,329	3,199	3,735	3,550	4,039	5,134	1,582	2,170	1,300	285	99	5,234	17,692	3,854
Females																
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	289	126	5,309	14,207	5,958
1986	25,687	319	1,231	3,032	3,978	3,509	3,418	4,083	1,422	2,498	1,704	346	148	4,953	14,616	6,118
1991	26,067	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,761	411	181	5,007	14,908	6,152
1996	26,381	310	1,300	3,243	3,134	4,056	3,528	4,704	1,252	2,437	1,734	457	227	5,168	15,106	6,107
2001	26,786	288	1,220	3,287	3,156	3,778	3,935	4,992	1,297	2,326	1,771	471	263	5,119	15,538	6,129
2002	26,868	287	1,195	3,280	3,207	3,685	4,007	5,060	1,302	2,328	1,787	460	270	5,091	15,631	6,146
2003	26,956	295	1,175	3,256	3,280	3,610	4,051	5,103	1,329	2,338	1,807	436	275	5,064	15,705	6,186
2004	27,062	306	1,165	3,224	3,342	3,552	4,097	5,141	1,365	2,345	1,815	430	280	5,031	15,796	6,235
2005	27,223	312	1,178	3,180	3,409	3,548	4,121	5,183	1,406	2,348	1,796	456	285	5,008	15,922	6,292
2006	27,358	319	1,201	3,127	3,458	3,523	4,134	5,239	1,466	2,333	1,778	492	286	4,990	16,012	6,355
2007	27,503	329	1,233	3,082	3,505	3,490	4,132	5,237	1,581	2,342	1,767	520	286	4,982	16,026	6,496
2008	27,659	343	1,266	3,051	3,540	3,481	4,090	5,264	1,654	2,386	1,762	544	279	4,988	16,046	6,625

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Tel no. for all enquiries relating to population estimates:- 01329 444661

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F[1]	65M/65F[1] and over
England																
Persons																
1981	46,821	598	2,235	6,678	7,440	6,703	5,663	7,948	2,449	4,347	2,249	362	149	10,285	28,133	8,403
1986	47,188	618	2,380	5,869	7,623	6,682	6,478	7,672	2,559	4,199	2,501	435	172	9,583	28,962	8,643
1991	47,875	660	2,560	5,885	6,772	7,460	6,633	7,920	2,399	4,222	2,626	529	210	9,658	29,390	8,827
1996	48,519	603	2,523	6,255	5,985	7,667	6,638	8,822	2,310	4,217	2,631	602	269	9,985	29,639	8,895
2001	49,450	558	2,366	6,359	6,032	7,171	7,407	9,327	2,395	4,113	2,764	638	321	9,908	30,487	9,055
2002	49,652	559	2,313	6,348	6,153	7,003	7,550	9,439	2,399	4,129	2,803	625	331	9,855	30,686	9,111
2003	49,866	576	2,275	6,305	6,304	6,859	7,641	9,522	2,445	4,155	2,850	596	340	9,812	30,867	9,188
2004	50,111	597	2,262	6,245	6,450	6,751	7,712	9,591	2,509	4,175	2,875	593	349	9,755	31,083	9,273
2005	50,466	606	2,289	6,161	6,583	6,742	7,772	9,675	2,586	4,189	2,865	638	357	9,713	31,384	9,370
2006	50,763	620	2,335	6,051	6,696	6,708	7,793	9,777	2,697	4,171	2,860	695	360	9,674	31,627	9,462
2007	51,092	641	2,398	5,961	6,812	6,669	7,791	9,758	2,904	4,192	2,865	739	363	9,656	31,792	9,645
2008	51,446	668	2,462	5,904	6,863	6,700	7,718	9,809	3,039	4,274	2,877	779	356	9,669	31,938	9,839
Males																
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	89	30	5,280	14,717	2,798
1986	22,949	317	1,219	3,010	3,862	3,357	3,249	3,822	1,224	1,853	897	108	33	4,911	15,147	2,891
1991	23,291	336	1,307	3,011	3,439	3,721	3,311	3,957	1,159	1,900	970	141	39	4,938	15,302	3,050
1996	23,629	309	1,294	3,198	3,023	3,818	3,302	4,390	1,133	1,932	1,003	172	55	5,110	15,358	3,161
2001	24,166	285	1,212	3,257	3,053	3,580	3,681	4,624	1,176	1,928	1,103	194	73	5,075	15,793	3,298
2002	24,290	286	1,182	3,253	3,127	3,500	3,755	4,673	1,176	1,942	1,128	193	77	5,047	15,904	3,339
2003	24,419	296	1,163	3,232	3,209	3,425	3,803	4,715	1,197	1,958	1,154	186	80	5,028	16,012	3,379
2004	24,563	306	1,159	3,202	3,297	3,371	3,831	4,748	1,228	1,972	1,172	190	84	5,001	16,143	3,419
2005	24,758	310	1,172	3,160	3,365	3,365	3,868	4,791	1,267	1,984	1,179	210	88	4,979	16,317	3,461
2006	24,926	317	1,196	3,100	3,432	3,353	3,875	4,839	1,320	1,981	1,190	233	91	4,957	16,475	3,494
2007	25,114	328	1,228	3,050	3,506	3,345	3,874	4,821	1,418	1,995	1,205	251	93	4,944	16,626	3,544
2008	25,319	342	1,260	3,021	3,523	3,385	3,840	4,845	1,485	2,035	1,222	268	93	4,950	16,751	3,617
Females																
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	273	119	5,004	13,416	5,605
1986	24,239	301	1,161	2,859	3,761	3,325	3,229	3,850	1,335	2,346	1,604	326	140	4,672	13,815	5,752
1991	24,584	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,656	388	171	4,720	14,088	5,777
1996	24,890	293	1,229	3,056	2,961	3,849	3,336	4,432	1,177	2,286	1,628	430	214	4,876	14,281	5,734
2001	25,284	273	1,154	3,102	2,979	3,591	3,726	4,702	1,219	2,185	1,661	444	248	4,834	14,694	5,757
2002	25,362	273	1,131	3,095	3,026	3,503	3,795	4,767	1,223	2,187	1,676	433	254	4,808	14,782	5,772
2003	25,448	280	1,112	3,073	3,095	3,433	3,838	4,808	1,248	2,197	1,696	410	260	4,784	14,854	5,809
2004	25,548	291	1,103	3,043	3,153	3,380	3,881	4,843	1,280	2,203	1,703	403	264	4,753	14,940	5,854
2005	25,708	296	1,117	3,001	3,218	3,378	3,905	4,885	1,319	2,206	1,686	428	269	4,733	15,066	5,908
2006	25,837	303	1,139	2,952	3,264	3,355	3,918	4,938	1,377	2,190	1,670	461	270	4,717	15,152	5,968
2007	25,978	312	1,170	2,910	3,306	3,324	3,917	4,937	1,485	2,198	1,660	488	270	4,711	15,166	6,100
2008	26,127	326	1,201	2,883	3,339	3,315	3,878	4,963	1,554	2,239	1,655	511	263	4,719	15,187	6,222
Wales																
Persons																
1981	2,813	36	136	407	434	383	333	485	158	272	139	21	8	626	1,663	525
1986	2,811	37	143	357	438	369	378	464	166	271	154	26	10	578	1,686	547
1991	2,873	38	153	363	393	402	389	486	154	284	164	32	13	589	1,711	573
1996	2,891	34	146	381	352	409	379	541	147	279	170	37	17	598	1,714	578
2001	2,910	32	136	382	356	365	409	572	154	264	183	39	20	587	1,739	584
2002	2,920	30	132	380	365	354	414	578	156	265	185	39	20	582	1,749	589
2003	2,931	31	129	377	376	345	417	582	161	268	187	38	21	577	1,759	595
2004	2,946	32	127	373	385	339	421	586	166	270	188	39	21	572	1,773	602
2005	2,954	32	126	367	390	335	421	589	171	271	186	42	21	566	1,780	608
2006	2,966	33	127	361	399	332	421	592	177	273	186	45	22	561	1,790	615
2007	2,980	34	130	353	407	330	418	590	188	276	185	48	22	557	1,797	627
2008	2,993	35	133	346	412	331	411	589	197	282	185	50	22	553	1,801	639
Males																
1981	1,365	18	70	209	221	193	168	240	73	118	48	5	2	321	871	173
1986	1,362	19	73	184	221	186	190	231	79	119	54	7	2	297	885	181
1991	1,391	20	78	186	199	199	194	242	74	128	60	8	2	302	891	198
1996	1,401	17	74	195	179	203	187	269	72	128	64	10	3	306	890	206
2001	1,409	16	69	196	179	178	200	283	75	124	73	12	4	301	895	212
2002	1,414	16	68	195	184	172	202	285	77	125	74	12	5	299	900	215
2003	1,423	16	66	194	190	168	204	287	79	127	75	11	5	296	908	218
2004	1,432	16	65	192	196	166	205	288	82	128	76	12	5	294	917	221
2005	1,439	17	65	189	200	166	205	290	84	129	77	13	5	291	924	224
2006	1,445	17	65	185	204	164	205	291	87	130	77	15	5	288	929	227
2007	1,454	17	67	181	209	164	203	289	93	132	78	16	6	286	937	231
2008	1,461	18	68	178	211	165	199	288	97	135	78	17	6	284	941	236
Females																
1981	1,448	18	66	199	213	190	165	246	85	154	91	16	6	305	791	352
1986	1,449	18	70	173	217	184	188	233	87	152	100	20	8	282	801	366
1991	1,482	19	75	177	194	203	195	244	80	156	104	24	10	288	820	375
1996	1,490	16	71	186	173	206	192	272	75	151	106	27	13	293	825	373
2001	1,502	15	66	186	177	187	209	289	78	141	110	27	15	286	844	372
2002	1,506	15	65	185	181	182	212	293	80	140	111	27	16	283	849	374
2003	1,508	15	63	183	185	176	214	295	82	141	112	27	16	280	851	377
2004	1,514	15	62	182	189	172	216	298	84	142	112	26	16	278	856	380
2005	1,515	16	61	179	191	170	216	299	87	142	110	28	16	275	856	383
2006	1,521	16	62	176	195	168	216	301	90	143	108	30	16	273	861	387
2007	1,526	16	63	172	198	166	215	300	96	144	107	32	16	271	860	395
2008	1,532	17	65	168	201	166	211	301	100	147	107	33	16	269	860	403

See notes on first page of table.

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F[1]	65M/60F[1] and over
Scotland																
Persons																
1981	5,180	69	249	780	875	724	603	880	260	460	232	35	14	1,188	3,110	882
1986	5,112	66	257	656	863	739	665	849	273	435	252	42	15	1,061	3,161	890
1991	5,083	66	258	634	746	795	696	853	265	441	259	51	19	1,021	3,151	912
1996	5,092	59	252	643	651	798	722	925	259	448	256	57	24	1,019	3,151	922
2001	5,064	52	224	629	633	696	782	979	262	447	272	59	29	970	3,150	944
2002	5,055	51	217	622	639	669	788	993	262	449	276	58	30	955	3,150	950
2003	5,057	52	212	614	648	648	793	1,008	265	452	281	55	31	943	3,156	958
2004	5,078	54	210	609	653	635	796	1,025	270	455	286	54	31	935	3,175	968
2005	5,095	54	211	600	659	629	794	1,042	273	457	286	59	32	929	3,191	975
2006	5,117	55	213	588	668	627	790	1,058	280	456	287	63	32	922	3,213	983
2007	5,144	57	218	576	676	629	781	1,060	301	457	290	66	32	917	3,227	1,001
2008	5,169	60	223	567	681	634	766	1,068	312	463	293	69	31	914	3,238	1,017
Males																
1981	2,495	35	128	400	445	364	298	424	118	194	77	8	3	610	1,603	282
1986	2,462	34	131	336	438	371	331	410	127	184	86	10	3	543	1,636	283
1991	2,445	34	132	324	377	394	345	415	124	192	91	13	3	522	1,623	299
1996	2,447	30	128	328	327	392	355	454	122	198	93	15	5	521	1,616	310
2001	2,434	26	115	322	319	337	379	483	125	200	103	17	6	497	1,610	327
2002	2,432	26	111	319	324	325	382	490	125	202	106	17	7	489	1,612	331
2003	2,435	26	108	314	329	315	383	496	126	204	108	16	7	483	1,616	336
2004	2,446	28	107	312	332	310	384	503	129	207	111	16	7	479	1,627	341
2005	2,456	28	107	307	335	309	382	511	131	208	112	18	7	476	1,635	345
2006	2,469	28	109	301	340	310	380	517	135	208	113	20	8	472	1,649	349
2007	2,486	29	112	295	345	313	375	517	146	210	116	21	8	469	1,662	354
2008	2,500	30	115	290	348	317	368	520	152	213	118	22	8	468	1,672	361
Females																
1981	2,685	33	121	380	430	359	305	456	142	265	155	27	11	579	1,506	600
1986	2,649	32	126	320	424	368	334	439	146	250	166	32	12	518	1,525	606
1991	2,639	32	126	309	369	402	351	437	141	249	168	38	16	499	1,528	612
1996	2,645	28	123	315	324	406	367	470	137	250	164	42	20	498	1,535	612
2001	2,630	26	109	307	314	359	403	496	137	246	169	43	23	473	1,540	617
2002	2,623	25	106	303	315	344	406	504	137	247	171	41	23	466	1,538	619
2003	2,623	25	104	300	318	332	410	512	139	248	173	39	24	460	1,540	622
2004	2,632	26	103	297	321	325	412	521	141	248	175	38	24	457	1,549	627
2005	2,639	26	103	293	324	320	411	531	142	249	174	41	25	453	1,556	630
2006	2,647	27	104	287	328	317	410	541	145	247	174	43	25	450	1,564	634
2007	2,659	28	106	281	332	316	406	542	155	247	174	45	24	448	1,564	646
2008	2,668	29	109	277	334	317	398	548	160	250	175	47	24	446	1,566	656
Northern Ireland																
Persons																
1981	1,543	27	106	282	271	200	175	227	68	116	57	..	..	444	874	224
1986	1,574	28	107	261	277	217	190	227	71	115	64	16	..	423	917	234
1991	1,607	26	106	260	256	240	200	241	70	121	69	14	6	417	945	246
1996	1,662	24	99	266	244	257	220	266	70	123	72	15	7	415	993	253
2001	1,689	22	93	255	240	243	248	290	74	123	77	16	7	397	1,030	262
2002	1,697	22	91	253	243	238	251	296	75	125	79	16	7	393	1,037	266
2003	1,703	21	89	251	246	233	254	301	78	126	81	16	8	388	1,044	271
2004	1,710	22	87	248	250	229	256	305	81	127	82	16	8	383	1,052	275
2005	1,724	23	88	245	253	228	257	310	84	128	83	17	8	381	1,064	280
2006	1,742	23	89	242	258	229	259	316	87	130	83	18	8	380	1,077	284
2007	1,759	24	91	239	260	231	259	321	90	132	84	19	8	380	1,089	290
2008	1,775	26	94	237	259	235	257	327	91	136	85	20	8	381	1,098	296
Males																
1981	757	14	54	145	140	102	87	109	32	50	21	..	..	228	454	75
1986	768	14	55	134	142	109	95	110	33	50	23	4	..	217	474	77
1991	783	13	54	133	131	119	100	118	32	53	26	4	1	213	487	83
1996	810	12	51	136	124	128	109	131	33	54	27	4	1	212	511	87
2001	824	11	48	131	122	120	122	144	35	56	30	5	2	204	529	92
2002	829	11	47	130	124	117	123	147	36	56	31	5	2	202	534	94
2003	833	11	46	129	126	115	124	149	38	57	31	5	2	199	538	95
2004	836	11	45	127	128	113	125	151	39	58	32	5	2	197	542	97
2005	844	12	45	126	130	113	126	153	41	59	32	5	2	196	550	99
2006	853	12	46	124	132	113	127	156	42	60	33	6	2	195	558	101
2007	862	13	47	123	134	114	127	158	44	61	33	6	2	195	564	103
2008	871	13	48	121	133	117	127	161	44	63	34	6	2	195	569	106
Females																
1981	786	13	52	137	130	98	88	118	37	66	37	..	..	216	420	150
1986	805	13	52	127	135	107	96	118	38	65	41	12	..	206	442	157
1991	824	13	52	127	125	121	100	123	38	67	44	10	4	203	458	163
1996	851	11	49	130	120	129	110	135	37	69	45	11	6	203	482	167
2001	865	10	45	124	119	123	126	146	38	68	47	11	6	193	501	170
2002	868	11	44	123	119	120	128	149	39	68	48	11	6	191	504	173
2003	870	10	43	122	120	118	129	152	40	68	49	11	6	189	506	175
2004	874	11	42	121	122	116	130	154	42	69	50	11	6	187	509	178
2005	880	11	43	119	123	115	131	157	43	69	50	11	6	186	514	181
2006	888	11	43	118	126	115	132	160	45	69	51	12	6	185	520	183
2007	897	12	44	116	127	117	132	163	46	70	51	13	6	185	526	187
2008	904	12	46	115	127	118	131	165	47	72	51	13	6	186	529	190

See notes on first page of table.

Table 1.5 Population: age, sex and legal marital status

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
Aged											
16 and over											
1971	36,818	4,173	12,522	187	682	17,563	3,583	12,566	296	2,810	19,255
1976	37,486	4,369	12,511	376	686	17,941	3,597	12,538	533	2,877	19,545
1981	38,724	5,013	12,238	611	698	18,559	4,114	12,284	828	2,939	20,165
1986	39,837	5,625	11,867	917	695	19,103	4,617	12,000	1,165	2,953	20,734
1991	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1996	40,827	6,225	11,310	1,346	733	19,614	5,168	11,433	1,730	2,881	21,212
1999	41,325	6,582	11,143	1,433	732	19,890	5,526	11,235	1,875	2,800	21,435
2000	41,569	6,721	11,113	1,456	731	20,022	5,650	11,199	1,927	2,772	21,547
2001	41,865	6,894	11,090	1,482	733	20,198	5,798	11,150	1,975	2,745	21,667
2002	42,135	7,062	11,043	1,524	730	20,358	5,944	11,094	2,031	2,709	21,777
2003	42,409	7,226	10,995	1,571	726	20,517	6,102	11,033	2,087	2,669	21,892
2004	42,731	7,419	10,941	1,617	722	20,700	6,279	10,980	2,144	2,628	22,031
2005	43,141	7,623	10,923	1,662	719	20,927	6,486	10,943	2,198	2,588	22,214
2006	43,494	7,833	10,881	1,696	716	21,126	6,683	10,893	2,244	2,548	22,367
2007	43,860	8,049	10,851	1,724	715	21,338	6,871	10,851	2,289	2,511	22,521
16–19											
1971	2,666	1,327	34	0	0	1,362	1,163	142	0	0	1,305
1976	2,901	1,454	28	0	0	1,482	1,289	129	0	0	1,419
1981	3,310	1,675	20	0	0	1,694	1,523	93	0	0	1,616
1986	3,131	1,587	10	0	0	1,596	1,484	49	1	0	1,535
1991	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1996	2,402	1,209	6	0	0	1,216	1,164	21	0	0	1,186
1999	2,543	1,280	6	1	1	1,288	1,234	20	1	1	1,255
2000	2,523	1,276	6	1	1	1,283	1,221	18	1	1	1,240
2001	2,567	1,304	5	1	1	1,312	1,237	16	1	1	1,255
2002	2,630	1,351	5	1	1	1,357	1,258	13	1	1	1,273
2003	2,703	1,392	4	1	1	1,397	1,293	12	0	1	1,306
2004	2,771	1,424	3	0	0	1,428	1,331	11	0	0	1,343
2005	2,801	1,434	2	0	0	1,436	1,355	10	0	0	1,365
2006	2,829	1,457	2	0	0	1,459	1,363	7	0	0	1,370
2007	2,861	1,473	2	0	0	1,475	1,379	7	0	0	1,386
20–24											
1971	3,773	1,211	689	3	0	1,904	745	1,113	9	2	1,869
1976	3,395	1,167	557	4	0	1,728	725	925	16	2	1,667
1981	3,744	1,420	466	10	1	1,896	1,007	811	27	2	1,847
1986	4,171	1,768	317	14	0	2,099	1,383	657	32	1	2,072
1991	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1996	3,291	1,538	117	3	0	1,658	1,361	260	11	1	1,633
1999	3,047	1,449	78	2	0	1,530	1,320	188	8	1	1,517
2000	3,088	1,470	74	3	0	1,548	1,352	180	8	1	1,540
2001	3,157	1,501	74	3	1	1,579	1,390	178	8	1	1,578
2002	3,212	1,530	73	3	1	1,606	1,427	170	8	1	1,606
2003	3,281	1,568	74	3	1	1,645	1,459	166	8	1	1,636
2004	3,376	1,632	75	3	1	1,712	1,491	163	8	2	1,664
2005	3,477	1,693	73	3	1	1,771	1,539	157	8	2	1,706
2006	3,558	1,741	67	3	1	1,812	1,591	146	7	1	1,746
2007	3,661	1,813	64	3	1	1,881	1,637	136	6	1	1,780
25–29											
1971	3,267	431	1,206	16	1	1,654	215	1,367	29	4	1,614
1976	3,758	533	1,326	39	2	1,900	267	1,522	65	5	1,859
1981	3,372	588	1,057	54	1	1,700	331	1,247	89	4	1,671
1986	3,713	835	949	79	1	1,863	527	1,207	113	4	1,850
1991	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1996	3,950	1,273	650	46	1	1,970	977	906	93	3	1,980
1999	3,687	1,304	497	34	1	1,836	1,051	725	72	3	1,851
2000	3,605	1,305	459	31	1	1,796	1,065	677	65	3	1,810
2001	3,487	1,293	420	28	1	1,742	1,059	625	58	3	1,745
2002	3,365	1,277	384	26	1	1,688	1,049	574	52	3	1,676
2003	3,284	1,265	356	24	1	1,647	1,051	536	48	2	1,638
2004	3,280	1,278	339	23	1	1,641	1,078	513	46	2	1,639
2005	3,354	1,320	331	23	1	1,675	1,128	504	45	2	1,679
2006	3,434	1,371	324	22	1	1,718	1,178	490	45	2	1,716
2007	3,526	1,422	326	22	1	1,770	1,223	486	44	2	1,756

Table 1.5 continued **Population: age, sex and legal marital status**

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
30–34											
1971	2,897	206	1,244	23	3	1,475	111	1,269	34	8	1,422
1976	3,220	236	1,338	55	3	1,632	118	1,388	75	8	1,588
1981	3,715	318	1,451	97	3	1,869	165	1,544	129	9	1,846
1986	3,338	355	1,197	124	2	1,679	206	1,293	154	6	1,660
1991	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1996	4,126	776	1,135	138	2	2,050	551	1,316	201	7	2,076
1999	4,113	877	1,043	121	3	2,044	651	1,223	188	7	2,069
2000	4,076	904	1,007	114	2	2,027	679	1,182	181	7	2,049
2001	4,050	934	971	108	2	2,016	711	1,142	174	7	2,033
2002	3,992	951	927	103	2	1,984	739	1,097	166	6	2,009
2003	3,919	964	881	99	2	1,947	760	1,049	158	6	1,972
2004	3,810	967	834	94	2	1,897	768	993	147	5	1,913
2005	3,724	972	793	88	2	1,856	778	948	137	5	1,868
2006	3,606	972	744	81	2	1,799	782	896	124	5	1,808
2007	3,473	962	701	74	1	1,738	777	840	114	4	1,735
35–44											
1971	5,736	317	2,513	48	13	2,891	201	2,529	66	48	2,845
1976	5,608	286	2,442	104	12	2,843	167	2,427	129	42	2,765
1981	5,996	316	2,519	178	12	3,024	170	2,540	222	41	2,972
1986	6,856	396	2,738	293	12	3,438	213	2,815	350	39	3,418
1991	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1996	7,017	653	2,426	398	12	3,489	427	2,568	497	36	3,528
1999	7,475	832	2,459	408	13	3,711	577	2,617	533	37	3,763
2000	7,661	899	2,481	410	12	3,802	635	2,640	547	37	3,859
2001	7,816	963	2,494	411	12	3,881	692	2,649	558	36	3,935
2002	7,964	1,027	2,499	420	12	3,957	749	2,653	570	35	4,007
2003	8,058	1,080	2,488	427	12	4,007	801	2,638	579	33	4,051
2004	8,133	1,126	2,466	433	11	4,036	853	2,623	588	32	4,097
2005	8,194	1,173	2,452	436	11	4,073	903	2,597	590	31	4,121
2006	8,213	1,219	2,419	431	11	4,080	955	2,564	585	30	4,134
2007	8,209	1,259	2,385	422	10	4,076	1,004	2,525	574	29	4,132
45–64											
1971	11,887	502	4,995	81	173	5,751	569	4,709	125	733	6,136
1976	11,484	496	4,787	141	160	5,583	462	4,568	188	683	5,901
1981	11,040	480	4,560	218	147	5,405	386	4,358	271	620	5,635
1986	10,860	461	4,422	331	141	5,355	327	4,220	388	570	5,505
1991	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1996	11,820	528	4,587	628	121	5,864	318	4,466	732	440	5,956
1999	12,198	589	4,627	706	121	6,043	355	4,541	844	415	6,155
2000	12,328	615	4,638	727	121	6,101	372	4,564	881	410	6,227
2001	12,447	644	4,647	747	121	6,159	391	4,578	918	401	6,289
2002	12,573	670	4,647	775	119	6,211	413	4,599	959	391	6,362
2003	12,710	700	4,653	807	118	6,278	437	4,616	999	380	6,432
2004	12,852	734	4,657	840	116	6,347	464	4,630	1,041	370	6,505
2005	13,021	771	4,672	873	115	6,431	496	4,650	1,084	361	6,590
2006	13,243	813	4,703	906	115	6,537	534	4,688	1,130	355	6,706
2007	13,439	857	4,716	935	114	6,621	576	4,719	1,175	347	6,818
65 and over											
1971	6,592	179	1,840	17	492	2,527	580	1,437	32	2,016	4,065
1976	7,119	197	2,033	33	510	2,773	569	1,579	60	2,138	4,347
1981	7,548	216	2,167	54	534	2,971	533	1,692	90	2,263	4,578
1986	7,768	223	2,234	76	539	3,072	477	1,759	127	2,333	4,696
1991	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1996	8,221	247	2,390	134	597	3,367	369	1,897	196	2,393	4,854
1999	8,262	251	2,431	161	594	3,437	338	1,922	230	2,336	4,825
2000	8,287	252	2,449	171	593	3,466	327	1,938	243	2,313	4,821
2001	8,342	254	2,478	183	595	3,510	318	1,960	259	2,295	4,832
2002	8,398	255	2,509	196	594	3,554	308	1,987	276	2,272	4,844
2003	8,454	257	2,539	209	592	3,597	301	2,017	295	2,245	4,857
2004	8,510	258	2,568	223	591	3,640	293	2,046	314	2,216	4,870
2005	8,571	259	2,599	238	589	3,685	286	2,078	334	2,187	4,885
2006	8,611	260	2,622	252	587	3,722	279	2,102	353	2,155	4,889
2007	8,690	263	2,658	268	587	3,775	274	2,138	375	2,128	4,915

Table 2.1 Vital statistics summary

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[3]
United Kingdom																		
1976	675.5	12.0	61.1	90	406.0	..	:	:	136.0	..	680.8	12.1	9.79	14.5	6.68	9.9	12.25	18.0
1981	730.7	13.0	91.3	125	397.8	49.4	:	:	157.0	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0
1986	754.8	13.3	154.3	204	393.9	..	:	:	168.3	..	660.7	11.7	7.18	9.5	4.00	5.3	7.31	9.6
1991	792.3	13.8	236.1	298	349.7	..	:	:	173.5	..	646.2	11.2	5.82	7.4	3.46	4.4	6.45	8.1
1996	733.2	12.6	260.4	355	317.5	..	:	:	171.7	..	636.0	10.9	4.50	6.1	3.00	4.1	6.41	8.7
1999	700.0	11.9	271.6	388	301.1	..	:	:	158.8	..	632.1	10.8	4.05	5.8	2.73	3.9	5.80	8.2
2000	679.0	11.5	268.1	395	305.9	..	:	:	154.6	..	608.4	10.3	3.81	5.6	2.63	3.9	5.56	8.1
2001	669.1	11.3	268.0	401	286.1	..	:	:	156.8	..	602.3	10.2	3.69	5.5	2.45	3.7	5.39	8.0
2002	668.8	11.3	271.7	406	293.0	..	:	:	160.7	..	606.2	10.2	3.54	5.3	2.37	3.6	5.54	8.2
2003	695.6	11.7	288.5	415	308.6	..	:	:	166.7	..	612.0	10.3	3.69	5.3	2.54	3.7	5.92	8.5
2004	716.0	12.0	302.6	423	313.6	..	:	:	167.8	..	583.1	9.7	3.66	5.1	2.49	3.5	5.88	8.2
2005	722.5	12.0	310.2	429	286.8	..	1.95[10]	..	155.0	..	582.7	9.7	3.69	5.1	2.52	3.5	5.78	8.0
2006	748.6	12.4	326.8	437	277.6	..	16.11	..	148.2	..	572.2	9.4	3.74	5.0	2.61	3.5	5.94	7.9
2007	772.2	12.7	343.2	444	270.0[P]	..	8.73	..	144.3[P]	..	574.7	9.4	3.74	4.8	2.55	3.3	6.00	7.7
2008	794.4[P]	12.9[P]	360.8[P]	454[P]	..	..	7.17[P]	..	..	..	579.7[P]	9.4[P]	3.75[P]	4.7[P]	2.56[P]	3.2[P]	6.02[P]	7.5[P]
2007 March	184.4	12.3	81.9	444	31.0[P]	..	1.69	..	38.9[P]	..	159.3	10.6	0.91	4.9	0.64	3.4	1.47	7.9
June	189.8	12.5	82.6	435	75.7[P]	..	2.37	..	37.2[P]	..	138.0	9.1	0.99	5.2	0.66	3.5	1.53	8.0
Sept	202.8	13.2	90.5	446	115.8[P]	..	2.96	..	36.7[P]	..	129.9	8.4	0.94	4.6	0.63	3.1	1.50	7.4
Dec	195.3	12.7	88.1	451	47.4[P]	..	1.71	..	31.4[P]	..	147.5	9.6	0.90	4.6	0.62	3.2	1.50	7.6
2008 March	195.4[P]	12.8[P]	88.8[P]	455[P]	..	..	1.25[P]	..	35.5[P]	..	155.6[P]	10.2[P]	0.95[P]	4.9[P]	0.66[P]	3.4[P]	1.53[P]	7.8[P]
June	198.2[P]	12.5[P]	82.6[P]	449[P]	..	..	1.93[P]	..	34.4[P]	..	140.2[P]	9.2[P]	0.88[P]	4.4[P]	0.59[P]	3.0[P]	1.48[P]	7.4[P]
Sept	204.4[P]	13.2[P]	93.3[P]	456[P]	..	..	2.46[P]	..	33.9[P]	..	130.3[P]	8.4[P]	0.97[P]	4.7[P]	0.67[P]	3.3[P]	1.47[P]	7.2[P]
Dec	196.4[P]	12.7[P]	89.6[P]	456[P]	..	..	1.53[P]	..	..	..	153.5[P]	10.0[P]	0.95[P]	4.8[P]	0.64[P]	3.2[P]	1.54[P]	7.8[P]
2009 March	189.7[P]	12.5[P]	87.8[P]	409[P]	..	..	0.98[P]	..	..	..	157.7[P]	10.4[P]	0.93[P]	4.9[P]	0.61[P]	3.2[P]	1.49[P]	7.8[P]
June	196.2[P]	12.7[P]	89.2[P]	455[P]	..	..	..	..	..	..	131.7[P]	8.5[P]	0.94[P]	4.8[P]	0.63[P]	3.2[P]	1.52[P]	7.7[P]
England and Wales																		
1976	584.3	11.8	53.8	92	358.6	57.7	:	:	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.45	17.7
1981	634.5	12.8	81.0	128	352.0	49.6	:	:	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8
1986	661.0	13.2	141.3	214	347.9	43.6	:	:	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6
1991	699.2	13.8	211.3	302	306.8	36.0	:	:	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0
1996	649.5	12.6	232.7	358	279.0	30.9	:	:	157.1	13.8	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6
1999	621.9	12.0	241.9	389	263.5	27.8	:	:	144.6	12.9	556.1	10.7	3.64	5.8	2.44	3.9	5.14	8.2
2000	604.4	11.6	238.6	395	268.0	27.8	:	:	141.1	12.7	535.7	10.3	3.40	5.6	2.34	3.9	4.96	8.2
2001	594.6	11.4	238.1	400	249.2	25.4	:	:	143.8	12.9	530.4	10.1	3.27	5.5	2.15	3.6	4.76	8.0
2002	596.1	11.3	242.0	406	255.6	25.6	:	:	147.7	13.3	533.5	10.1	3.17	5.3	2.14	3.6	4.96	8.3
2003	621.5	11.8	257.2	414	270.1	26.5	:	:	153.5	13.9	538.3	10.2	3.31	5.3	2.28	3.7	5.32	8.5
2004	639.7	12.1	269.7	422	273.1	26.2	:	:	153.4	14.0	512.5	9.7	3.27	5.1	2.24	3.5	5.25	8.2
2005	645.8	12.1	276.5	428	247.8	23.3	1.86[10]	5.8[10]	141.8	13.0	512.7	9.7	3.25	5.0	2.22	3.4	5.17	8.0
2006	669.6	12.5	291.4	435	239.5	22.0	14.94	1.4	132.6	12.2	502.6	9.4	3.37	5.0	2.35	3.5	5.36	8.0
2007	690.0	12.8	305.6	443	231.4[P]	20.9[P]	7.93	0.7	128.5[P]	11.8[P]	504.1	9.3	3.35	4.8	2.28	3.3	5.37	7.7
2008	708.7	13.0	320.8	453	..	..	6.56	0.6[P]	..	..	509.1	9.4	3.37	4.8	2.30	3.2	5.38	7.6
2007 March	164.0	12.3	72.5	442	26.7[P]	9.8[P]	1.55	0.6	34.7[P]	13.0[P]	139.3	10.5	0.80	4.9	0.56	3.4	1.31	7.9
June	169.5	12.6	73.5	434	65.2[P]	23.6[P]	2.16	0.8	33.1[P]	12.3[P]	121.0	9.0	0.88	5.2	0.60	3.5	1.36	8.0
Sept	181.4	13.3	80.8	445	99.4[P]	35.6[P]	2.68	1.0	33.0[P]	12.1[P]	114.0	8.4	0.84	4.6	0.57	3.1	1.35	7.4
Dec	175.0	12.8	78.7	450	40.1[P]	14.4[P]	1.54	0.6	27.6[P]	10.1[P]	129.7	9.5	0.83	4.7	0.56	3.2	1.35	7.7
2008 March	173.8	12.8	78.6	452	..	..	1.13	0.4[P]	31.9[P]	11.8[P]	136.4	10.1	0.86	4.9	0.60	3.4	1.38	7.9
June	177.0	13.1	79.4	449	..	..	1.79	0.7[P]	30.6[P]	11.4[P]	123.1	9.1	0.79	4.5	0.53	3.0	1.33	7.4
Sept	182.4	13.3	83.1	455	..	..	2.24	0.8[P]	30.4[P]	11.2[P]	114.3	8.4	0.87	4.8	0.60	3.3	1.32	7.2
Dec	175.5	12.8	79.8	455	..	..	1.39	0.5[P]	..	..	135.3	9.9	0.85	4.8	0.57	3.3	1.36	7.7
2009 March	168.9[P]	12.5[P]	77.8[P]	461[P]	..	..	0.91[P]	0.3[P]	..	..	138.7[P]	10.3[P]	0.82[P]	4.9[P]	0.54[P]	3.2[P]	1.32[P]	7.8[P]
June	175.1[P]	12.8[P]	79.4[P]	454[P]	..	..	..	..	..	..	115.4[P]	8.4[P]	0.85[P]	4.9[P]	0.56[P]	3.2[P]	1.34[P]	7.6[P]
England																		
1976	550.4	11.8	50.8	92	339.0	..	:	:	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	:	:	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	:	:	146.0	..	544.5	11.6	5.92	9.5	3.27	5.2	5.98	9.5
1991	660.8	13.8	198.9	301	290.1	..	:	:	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0
1996	614.2	12.7	218.2	355	264.2	..	:	:	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7
1999	589.5	12.0	226.7	385	249.5	..	:	:	137.0	..	519.6	10.8	3.38	5.7	2.29	3.9	4.86	8.2
2000	572.8	11.7	223.8	391	253.8	..	:	:	133.9	..	501.0	10.2	3.20	5.6	2.21	3.9	4.70	8.2
2001	563.7	11.4	223.3	396	236.2	..	:	:	136.4	..	496.1	10.0	3.06	5.4	2.03	3.6	4.51	8.0
2002	565.7	11.4	227.0	401	242.1	..	:	:	140.2	..	499.1	10.1	3.00	5.3	2.03	3.6	4.71	8.3
2003	589.9	11.8	241.4	409	255.6	..	:	:	145.8	..	503.4	10.1	3.15	5.3	2.17	3.7	5.06	8.5
2004	607.2	12.1	253.1	417	258.2	..	:	:	145.5	..	479.2	9.6	3.06	5.1	2.01	3.5	4.97	8.1
2005	613.0	12.1	259.4	423	233.8	..	1.79[10]	..	134.6	..	479.4	9.6	3.08	5.0	2.11	3.4	4.91	8.0
2006	635.7	12.5	273.5	430	226.0	..	14.38	..	125.6	..	470.3	9.3	3.19	5.0	2.24	3.5	5.11	8.0
2007	655.4	12.8	287.0	438	215.6[P]	..	7.64	..	121.9[P]	..	470.7	9.2	3.13	4.8	2.15	3.3	5.10	7.7
2008	672.8	13.1	300.9	447	..	..	6.28	..	..	..	475.8	9.2	3.19	4.7	2.18	3.2	5.09	7.5
2007 March	155.9	12.4	68.1	437	25.4[P]	..	1.49	..	32.9[P]	..	130.3	10.3	0.74	4.7	0.52	3.3	1.23	7.8
June	161.0	12.6	69.0	429	61.6[P]	..	2.06	..	31.4[P]	..	112.9	8.9	0.84	5.2	0.57	3.5	1.30	8.0
Sept	172.2	13.4	75.9	441	93.7[P]	..	2.60	..	31.4[P]	..	106.4	8.3	0.79	4.6	0.54	3.1	1.29	7.5
Dec	166.3	12.9	74.0	445	37.9[P]	..	1.48	..	26.2[P]	..	121.2	9.4	0.76	4.6	0.53	3.2	1.28	7.6
2008 March	165.0	12.9	73.7	447	..	..	1.08	..	30.3[P]	..	127.6	10.0	0.82	4.9	0.57	3.4	1.30	7.8
June	167.9	13.1	74.4	443	..	..	1.72	..	29.1[P]	..	115.1	9.0	0.74	4.4	0.50	3.0	1.26	7.5
Sept	173.2	13.4	77.9	450	..	..	2.14	..	28.8[P]	..	106.7	8.2	0.82	4.7	0.57	3.3	1.24	7.1
Dec	166.7	12.9	74.9	449	..	..	1.33	..	..	..	126.4	9.8	0.81	4.8	0.54	3.3	1.29	7.7
2009 March	160.5[P]	12.6[P]	73.1[P]	455[P]	..	..	0.89[P]	..	..	..	129.6[P]	10.1[P]	0.79[P]	4.9[P]	0.52[P]	3.2[P]	1.27[P]	7.9[P]
June	166.4[P]	12.9[P]	74.6[P]	448[P]	..	..	..	..	..	..	108.2[P]	8.4[P]	0.80[P]	4.8[P]	0.53[P]	3.2[P]	1.27[P]	7.6[P]

Note: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Death figures for 2006, 2007, 2008 and provisional death figures for 2009 relate to registrations.
Infant, neonatal and perinatal mortality rates for Northern Ireland take account of the non-resident livebirths.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales. These events are, however, included in the totals for England and Wales combined, and for the United Kingdom.
All infant, neonatal and perinatal mortality data has now been revised to registration data.
From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.
From August 2009, Scotland revised their divorce figures back to 1985. These are based on the annual 'Date of decree' and exclude late divorces from previous years.
The birth and death rates 2009 are based on 2008-based population projections for 2009. Marriage, civil partnership and divorce rates for 2008 and 2009 are based on 2007 marital status estimates. Rates have been revised from 2002 to include the adjustments for marriages to England and Wales residents occurring abroad. Marital status estimates/rates are not available for Northern Ireland/UK.

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
Wales																		
1976	33.4	11.9	2.9	86	19.5	..	:	:	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	:	:	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.2	7.8	211	19.5	..	:	:	7.8	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3
1991	38.1	13.3	12.3	323	16.6	..	:	:	8.4	..	34.1	11.9	0.25	6.6	0.16	4.1	0.30	7.9
1996	34.9	12.1	14.4	412	14.8	..	:	:	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5
1999	32.1	11.1	14.8	461	14.0	..	:	:	7.5	..	35.0	12.1	0.21	6.4	0.13	4.1	0.25	7.8
2000	31.3	10.8	14.8	472	14.1	..	:	:	7.2	..	33.3	11.5	0.16	5.2	0.11	3.6	0.23	7.3
2001	30.6	10.5	14.8	483	13.0	..	:	:	7.4	..	33.0	11.3	0.17	5.5	0.11	3.4	0.23	7.5
2002	30.2	10.3	15.0	497	13.5	..	:	:	7.6	..	33.2	11.4	0.14	4.7	0.10	3.1	0.24	7.7
2003	31.4	10.7	15.8	503	14.5	..	:	:	7.7	..	33.7	11.5	0.13	4.1	0.10	3.1	0.24	7.5
2004	32.3	11.0	16.6	513	14.9	..	:	:	7.9	..	32.1	10.9	0.17	4.9	0.11	3.3	0.26	7.9
2005	32.6	11.0	17.1	524	14.0	..	0.07[10]	..	7.2	..	32.1	10.9	0.14	5.1	0.09	2.9	0.24	7.4
2006	33.6	11.3	17.8	530	13.5	..	0.56	..	7.0	..	31.1	10.5	0.14	4.1	0.09	2.8	0.23	6.9
2007	34.4	11.5	18.5	538	12.8[p]	..	0.29	..	6.7[p]	..	32.1	10.8	0.18	5.3	0.12	3.4	0.25	7.3
2008	35.7	11.9	19.8	556	..	..	0.28	..	..	..	32.1	10.7	0.15	4.1	0.11	3.0	0.24	6.7
2007 March	8.1	11.0	4.3	536	1.3[p]	..	0.06	..	1.8[p]	..	8.8	11.9	0.05	6.3	0.03	3.7	0.07	9.0
June	8.5	11.4	4.5	530	3.6[p]	..	0.10	..	1.8[p]	..	7.9	10.6	0.04	4.5	0.02	2.8	0.06	6.8
Sept	9.1	12.1	4.9	541	5.7[p]	..	0.08	..	1.7[p]	..	7.3	9.7	0.04	4.4	0.03	2.8	0.05	5.7
Dec	8.7	11.6	4.8	547	2.2[p]	..	0.06	..	1.4[p]	..	8.3	11.0	0.05	6.1	0.04	4.1	0.07	7.9
2008 March	8.7	11.8	4.8	552	..	..	0.06	..	1.6[p]	..	8.6	11.5	0.04	4.1	0.03	3.0	0.06	7.3
June	9.0	12.0	5.0	555	..	..	0.07	..	1.5[p]	..	7.7	10.4	0.04	4.2	0.03	3.2	0.06	6.4
Sept	9.2	12.2	5.1	556	..	..	0.10	..	1.6[p]	..	7.3	9.6	0.04	3.8	0.03	2.9	0.06	6.3
Dec	8.8	11.6	4.9	561	..	..	0.06	..	..	..	8.5	11.3	0.04	4.3	0.03	3.0	0.06	6.9
2009 March	8.4[p]	11.4[p]	4.7[p]	559[p]	..	..	0.03[p]	..	..	..	8.9[p]	12.0[p]	0.03[p]	3.1[p]	0.02[p]	2.0[p]	0.05[p]	5.3[p]
June	8.6[p]	11.5[p]	4.8[p]	561[p]	..	..	..	..	..	..	7.3[p]	9.7[p]	0.04[p]	4.5[p]	0.03[p]	3.0[p]	0.07[p]	7.6[p]
Scotland																		
1976	64.9	12.5	6.0	93	37.5	53.8	:	:	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3
1981	69.1	13.4	8.5	122	36.2	47.5	:	:	9.9	8.0	63.8	12.3	0.78	11.3	0.47	6.9	0.81	11.6
1986	65.8	12.9	13.6	206	35.8	42.9	:	:	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2
1991	67.0	13.2	19.5	291	33.8	39.0	:	:	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.6	0.58	8.6
1996	59.3	11.6	21.4	360	30.2	33.2	:	:	12.3	10.9	60.7	11.9	0.37	6.2	0.23	3.9	0.55	9.2
1999	55.1	10.9	22.7	412	29.9	31.5	:	:	11.9	10.9	60.3	11.9	0.28	5.0	0.18	3.3	0.42	7.6
2000	53.1	10.5	22.6	426	30.4	31.6	:	:	11.1	10.3	57.8	11.4	0.31	5.7	0.21	4.0	0.45	8.4
2001	52.5	10.4	22.8	433	29.6	31.0	:	:	10.7	9.7	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5
2002	51.3	10.1	22.5	440	29.8	30.8	:	:	10.9	10.0	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6
2003	52.4	10.4	23.9	455	30.8	31.3	:	:	10.9	10.2	58.5	11.6	0.27	5.1	0.18	3.4	0.42	8.0
2004	54.0	10.6	25.2	467	32.2	32.1	:	:	11.3	10.5	56.2	11.1	0.27	4.9	0.17	3.1	0.44	8.1
2005	54.4	10.7	25.6	471	30.9	30.3	0.08[10]	2.5[10]	10.9	10.3	55.7	11.0	0.28	5.2	0.19	3.5	0.42	7.7
2006	55.7	10.9	26.6	477	29.9	28.7	1.05	1.0	13.1	12.3	55.1	10.8	0.25	4.5	0.17	3.1	0.42	7.4
2007	57.8	11.2	28.4	491	29.9	28.1	0.69	0.6	12.8	12.2	56.0	10.9	0.27	4.7	0.19	3.2	0.46	7.8
2008	60.0	11.6	30.1	501	28.9	27.2	0.53	0.5[p]	11.5	10.9	55.7	10.8	0.25	4.2	0.17	2.8	0.45	7.4
2007 March	14.2	11.2	7.1	501	3.3	12.7	0.11	0.4	3.3	12.8	15.8	12.5	0.07	4.9	0.05	3.6	0.12	8.1
June	14.3	11.1	6.9	482	8.1	30.7	0.18	0.7	3.3	12.7	13.4	10.4	0.08	5.3	0.05	3.4	0.12	8.6
Sept	14.9	11.5	7.2	485	12.6	47.1	0.25	0.9	3.0	11.4	12.6	9.7	0.07	4.6	0.05	3.0	0.11	7.1
Dec	14.4	11.1	7.1	497	5.8	21.6	0.15	0.6	3.1	11.8	14.2	10.9	0.06	3.9	0.04	2.9	0.11	7.5
2008 March	15.1	11.8	7.7	510	3.4	13.0	0.10	0.4[p]	2.8	10.6[p]	15.1	11.7	0.06	3.9	0.04	2.8	0.11	7.0
June	14.9	11.6	7.3	488	7.9	29.9	0.11	0.4[p]	3.0	11.6[p]	13.5	10.5	0.06	4.0	0.04	2.5	0.11	7.5
Sept	15.5	11.9	7.7	498	11.9	44.5	0.20	0.7[p]	2.8	10.8[p]	12.6	9.7	0.07	4.8	0.05	3.4	0.11	6.9
Dec	14.5	11.2	7.4	507	5.7	21.2	0.12	0.4[p]	2.8	10.7[p]	14.5	11.2	0.06	4.1	0.04	2.4	0.12	8.2
2009 March	14.5[p]	11.3[p]	7.4[p]	512[p]	3.2[p]	12.1[p]	0.05[p]	0.2[p]	2.5[p]	9.6[p]	14.8[p]	11.6[p]	0.06[p]	4.3[p]	0.04[p]	2.9[p]	0.10[p]	6.7[p]
June	14.9[p]	11.5[p]	7.4[p]	495[p]	7.9[p]	29.8[p]	..	..	2.6[p]	10.1[p]	12.8[p]	9.9[p]	0.06[p]	4.0[p]	0.05[p]	3.2[p]	0.13[p]	8.9[p]
Northern Ireland																		
1976	26.4	17.3	1.3	50	9.9	..	:	:	0.6	..	17.0	11.2	0.48	18.3	0.35	13.3	0.59	22.3
1981	27.2	17.6	1.9	70	9.6	45.4	:	:	1.4	4.2	16.3	10.6	0.36	13.2	0.23	8.3	0.42	15.3
1986	28.0	17.8	3.6	128	10.2	..	:	:	1.5	..	16.1	10.3	0.36	13.2	0.23	8.3	0.42	15.3
1991	26.0	16.2	5.3	203	9.2	..	:	:	2.3	..	15.1	9.4	0.19	7.4	0.12	4.6	0.22	8.4
1996	24.4	14.7	6.3	260	8.3	..	:	:	2.3	..	15.2	9.2	0.14	5.8	0.09	3.7	0.23	9.4
1999	23.0	13.7	7.0	303	7.6	..	:	:	2.3	..	15.7	9.3	0.15	6.4	0.11	4.8	0.23	10.0
2000	21.5	12.8	6.8	318	7.6	..	:	:	2.4	..	14.9	8.9	0.11	5.0	0.08	3.8	0.16	7.2
2001	22.0	13.0	7.1	325	7.3	..	:	:	2.4	..	14.5	8.6	0.13	6.0	0.10	4.4	0.19	8.4
2002	21.4	12.6	7.2	335	7.6	..	:	:	2.2	..	14.6	8.6	0.10	4.6	0.07	3.4	0.19	8.7
2003	21.6	12.7	7.4	344	7.8	..	:	:	2.3	..	14.5	8.5	0.12	5.2	0.09	3.9	0.18	8.0
2004	22.3	13.0	7.7	345	8.3	..	:	:	2.5	..	14.4	8.4	0.12	5.3	0.08	3.6	0.19	8.0
2005	22.3	12.9	8.1	363	8.1	..	0.01[10]	..	2.4	..	14.2	8.3	0.14	6.1	0.11	4.9	0.19	8.1
2006	23.3	13.4	8.8	380	8.3	..	0.12	..	2.6	..	14.5	8.4	0.12	5.1	0.09	3.8	0.17	6.9
2007	24.5	13.9	9.3	379	8.7	..	0.11	..	2.9	..	14.6	8.3	0.12	4.9	0.08	3.2	0.17	6.9
2008	25.6[p]	14.4[p]	10.0[p]	389[p]	8.5[p]	..	0.09[p]	..	2.8[p]	..	14.9[p]	8.4[p]	0.12[p]	4.7[p]	0.10[p]	3.6[p]	0.19[p]	7.4[p]
2007 March	6.1	14.2	2.4	383	1.0	..	0.02	..	0.9	..	4.2	9.7	0.04	6.7	0.03	4.6	0.05	7.6
June	6.0	13.7	2.2	365	2.4	..	0.03	..	0.7	..	3.6	8.2	0.03	5.1	0.02	2.9	0.04	6.7
Sept	6.5	14.5	2.5	386	3.8	..	0.04	..	0.7	..	3.3	7.3	0.03	4.6	0.02	3.2	0.05	7.0
Dec	5.9	13.2	2.2	380	1.6	..	0.02	..	0.6	..	3.6	8.1	0.02	3.3	0.01	2.2	0.04	6.5
2008 March	6.5[p]	14.8[p]	2.6[p]	396[p]	1.1[p]	..	0.02[p]	..	0.8[p]	..	4.1[p]	9.4[p]	0.03[p]	4.6[p]	0.03[p]	3.9[p]	0.05[p]	7.3[p]
June	6.3[p]	14.3[p]	2.4[p]	384[p]	2.2[p]	..	0.02[p]	..	0.7[p]	..	3.6[p]	8.2[p]	0.03[p]	4.6[p]	0.02[p]	3.5[p]	0.04[p]	6.4[p]
Sept	6.5[p]	14.5[p]	2.5[p]	386[p]	3.6[p]	..	0.02[p]	..	0.6[p]	..	3.4[p]	7.7[p]	0.03[p]	3.8[p]	0.02[p]	2.7[p]	0.05[p]	7.5[p]
Dec	6.3[p]	14.2[p]	2.5[p]	389[p]	1.6[p]	..	0.02[p]	..	0.7[p]	..	3.7[p]	8.4[p]	0.04[p]	5.7[p]	0.03[p]	4.3[p]	0.05[p]	8.2[p]
2009 March	6.3[p]	14.3[p]	2.6[p]	409[p]	0.9[p]	..	0.01[p]	..	..	..	4.2[p]	9.5[p]	0.04[p]	6.5[p]	0.03[p]	4.8[p]	0.07[p]	10.0[p]
June	6.3[p]	14.1[p]	2.4[p]	389[p]	2.3[p]	..	..	..	..	..	3.4[p]	7.7[p]	0.03[p]	4.8[p]	0.02[p]	3.4[p]	0.04[p]	6.0[p]

1 Per 1,000 population of all ages.
2 Per 1,000 live births.
3 Persons marrying per 1,000 unmarried population aged 16 and over.
4 Persons forming a civil partnership per 1,000 unmarried population aged 16 and over.
5 Persons divorcing per 1,000 married population.
6 Deaths under 1 year.
7 Deaths under 4 weeks.
8 Stillbirths and deaths under 1 week.
9 Per 1,000 live births and stillbirths.
10 The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK - see Notes to tables.
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Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

Year and quarter	Population	Live births	Deaths	Dependency ratio: Children[1]	Dependency ratio: Elderly[2]	Live births: TFR[3]	Live births: Standardised mean age of mother at birth (years)[4]	Live births: Unstandardised mean age of mother at birth (years)[5]	Live births: Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Period expectation of life (in years) at birth[7]: Males	Period expectation of life (in years) at birth[7]: Females	Infant mortality rate[8]
United Kingdom													
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	26.7	26.4	*9.0*	10,486	..	..	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	27.0	26.8	*12.5*	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	27.4	27.0	*20.4*	8,914	71.9	77.7	9.5
1991	57,438.7	792.3	646.2	33.2	30.0	1.82	27.7	27.7	*29.8*	8,168	73.2	78.7	7.4
1996	58,164.4	733.2	636.0	33.9	30.0	1.73	28.2	28.6	*35.5*	7,584	74.2	79.4	6.1
2001	59,113.5	669.1	602.3	32.6	29.8	1.63	28.6	29.2	*40.1*	6,807	75.6	80.4	5.5
2002	59,323.5	668.8	606.2	32.2	29.8	1.64	28.7	29.3	*40.6*	6,765	75.9	80.5	5.3
2003	59,557.3	695.6	612.0	31.8	29.9	1.71	28.8	29.4	*41.5*	6,758	76.2	80.7	5.3
2004	59,845.8	716.0	583.1	31.4	30.0	1.77	28.9	29.4	*42.3*	6,394	76.5	80.9	5.1
2005	60,238.4	722.5	582.7	31.0	30.0	1.78	29.1	29.5	*42.9*	6,268	76.9	81.3	5.1
2006	60,587.3	748.6	572.2	30.6	30.1	1.84	29.1	29.5	*43.7*	6,067	77.2	81.5	5.0
2007	60,975.4	772.2	574.7	30.4	30.5	1.90	29.3	29.5	*44.4*	5,966	77.4	81.6	4.8
2008[p]	61,383.2	794.4	579.7	30.2	31.0	1.96	29.3	29.5	*45.4*	5,908	..	..	4.7
England													
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	26.5	26.4	*9.2*	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	27.0	26.8	*12.9*	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	27.4	27.0	*21.4*	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	27.7	27.7	*30.1*	8,017	73.4	78.9	7.3
1996	48,519.1	614.2	524.0	33.7	30.0	1.73	28.2	28.7	*35.5*	7,414	74.5	79.6	6.1
2001	49,449.7	563.7	496.1	32.5	29.7	1.63	28.6	29.3	*39.6*	6,650	75.9	80.6	5.4
2002	49,652.3	565.7	499.1	32.1	29.7	1.65	28.7	29.4	*40.1*	6,603	76.1	80.7	5.2
2003	49,866.2	589.9	503.4	31.8	29.8	1.73	28.9	29.4	*40.9*	6,602	76.5	80.9	5.3
2004	50,110.7	607.2	479.2	31.4	29.8	1.78	29.0	29.5	*41.7*	6,232	76.8	81.1	5.0
2005	50,465.6	613.0	479.4	30.9	29.9	1.79	29.1	29.5	*42.3*	6,110	77.2	81.5	5.0
2006	50,762.9	635.7	470.3	30.6	29.9	1.86	29.2	29.5	*43.0*	5,916	77.5	81.7	5.0
2007	51,092.0	655.4	470.7	30.4	30.3	1.92	29.3	29.6	*43.8*	5,792	77.7	81.9	4.8
2008	51,446.2	672.8	475.8	30.3	30.8	1.97	29.3	29.5	*44.7*	5,748	..	..	4.7
Wales													
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	26.2	26.0	*8.6*	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.87	26.7	26.6	*11.2*	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	26.9	26.5	*21.1*	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	27.1	27.0	*32.3*	8,149	73.1	78.8	6.6
1996	2,891.3	34.9	34.6	34.9	33.7	1.81	27.5	27.8	*41.2*	7,758	73.8	79.1	5.6
2001	2,910.2	30.6	33.0	33.7	33.6	1.66	27.8	28.3	*48.3*	7,017	75.3	80.0	5.4
2002	2,919.8	30.2	33.2	33.3	33.7	1.64	28.0	28.4	*49.7*	6,953	75.5	80.1	4.5
2003	2,931.1	31.4	33.7	32.8	33.8	1.73	28.1	28.5	*50.3*	6,984	75.8	80.3	4.3
2004	2,946.4	32.3	32.1	32.3	33.9	1.78	28.2	28.5	*51.3*	6,588	76.1	80.6	4.9
2005	2,953.6	32.6	32.1	31.8	34.1	1.81	28.4	28.5	*52.4*	6,442	76.6	80.9	4.1
2006	2,965.9	33.6	31.1	31.4	34.3	1.86	28.5	28.6	*53.0*	6,190	76.7	81.1	4.1
2007	2,980.0	34.4	32.1	31.0	34.9	1.90	28.6	28.6	*53.8*	6,307	76.9	81.2	5.3
2008	2,993.4	35.7	32.1	30.7	35.5	1.96	28.7	28.5	*55.6*	6,147	..	..	4.1
Scotland													
1976	5,233.4	64.9	65.3	44.7	28.4	1.79	26.4	26.0	*9.3*	11,675	..	..	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	26.8	26.3	*12.2*	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	27.1	26.6	*20.6*	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	27.5	27.4	*29.1*	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	28.0	28.5	*36.0*	8,791	72.2	77.9	6.2
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	28.5	29.2	*43.3*	7,930	73.3	78.8	5.5
2002	5,054.8	51.3	58.1	30.3	30.2	1.48	28.6	29.2	*44.0*	7,955	73.5	78.9	5.3
2003	5,057.4	52.4	58.5	29.9	30.3	1.54	28.7	29.3	*45.5*	7,921	73.8	79.1	5.1
2004	5,078.4	54.0	56.2	29.5	30.5	1.60	28.9	29.4	*46.7*	7,536	74.2	79.3	4.9
2005	5,094.8	54.4	55.7	29.1	30.6	1.62	29.0	29.5	*47.1*	7,349	74.6	79.6	5.2
2006	5,116.9	55.7	55.1	28.7	30.6	1.67	29.1	29.5	*47.7*	7,161	74.8	79.7	4.5
2007	5,144.2	57.8	56.0	28.4	31.0	1.73	29.2	29.4	*49.1*	7,150	75.0	79.9	4.7
2008	5,168.5	60.0	55.7	28.2	31.4	1.80	29.3	29.4	*50.1*	7,006	..	..	4.2
Northern Ireland													
1976	1,523.5	26.4	17.0	56.1	25.3	2.68	27.8	27.4	*5.0*	11,746	..	..	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	28.1	27.5	*7.0*	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.45	28.1	27.5	*12.8*	10,071	70.9	77.1	13.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	28.3	28.0	*20.3*	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.95	28.7	28.8	*26.0*	7,742	73.8	79.2	5.8
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	29.1	29.4	*32.5*	6,976	75.2	80.1	6.0
2002	1,696.6	21.4	14.6	37.9	25.7	1.77	29.2	29.4	*33.5*	6,930	75.6	80.4	4.6
2003	1,702.6	21.6	14.5	37.2	25.9	1.81	29.2	29.5	*34.4*	6,743	75.8	80.6	5.2
2004	1,710.3	22.3	14.4	36.4	26.2	1.87	29.4	29.7	*34.5*	6,609	76.0	80.8	5.3
2005	1,724.4	22.3	14.2	35.8	26.3	1.87	29.5	29.7	*36.3*	6,418	76.1	81.0	6.1
2006	1,741.6	23.3	14.5	35.3	26.4	1.94	29.6	29.7	*38.0*	6,397	76.2	81.2	5.1
2007	1,759.1	24.5	14.6	34.9	26.6	2.02	29.8	29.8	*37.9*	6,321	76.3	81.2	4.9
2008[p]	1,775.0	25.6	14.9	34.7	26.9	2.11	29.8	29.7	*38.9*	6,299	..	..	4.7

Note: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Death figures for 2006 onwards relate to registrations.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales (apart from life expectancy figures – where those occurring in England and Wales are assigned to England). These events are, however, included in the total for the United Kingdom. From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.
Birth and death rates for 2009 have been calculated using 2008-based population projections for 2009.
Infant mortality rates for Northern Ireland have now been amended to take account of the non-resident live births.

1 Percentage of children under 16 to working-age population (males 16–64 and females 16–59).
2 Percentage of males 65 and over and females 60 and over to working-age population (males 16–64 and females 16–59).
3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).
4 Standardised to take account of the age structure of the population.
5 Unstandardised and therefore takes no account of the age structure of the population.
6 Per million population. The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.
7 All countries: figures for all years based on registered deaths. A minor methodological change was introduced for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.
8 Deaths at age under one year per 1,000 live births.
p Provisional

Table 3.1 Live births: age of mother

England and Wales

Numbers (thousands), rates, mean age and TFRs

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[2] (years)	TFR[3]
	Total live births (numbers)								Age-specific fertility rates[4]								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	27.6	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.4	2.77
1964(max)	876.0	76.7	276.1	270.7	153.5	75.4	23.6	27.2	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.3	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	26.8	90.5	47.7	176.0	174.0	97.3	45.3	12.5	27.1	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	26.2	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.6	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	26.4	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.5	1.71
1977(min)	569.3	54.5	174.5	207.9	100.8	25.5	6.0	26.5	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.6	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	26.8	61.3	28.1	105.3	129.1	68.6	21.7	4.9	27.0	1.79
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	27.0	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.4	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	27.7	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	27.9	63.6	31.7	86.1	117.6	87.4	33.4	5.8	27.8	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	28.1	62.7	30.9	82.5	114.4	87.4	34.1	6.2	27.9	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	28.4	62.0	28.9	79.0	112.2	89.4	35.8	6.4	28.1	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	28.5	60.5	28.5	76.4	108.4	88.3	36.3	6.8	28.2	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	28.6	60.6	29.7	77.0	106.6	89.8	37.5	7.2	28.2	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	28.8	60.0	30.2	76.0	104.3	89.8	39.4	7.6	28.3	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	28.9	59.2	30.9	74.9	101.5	90.6	40.4	7.9	28.3	1.72
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	29.0	57.8	30.9	73.0	98.3	89.6	40.6	8.1	28.4	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	29.1	55.9	29.3	70.0	94.3	87.9	41.4	8.3	28.5	1.65
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	29.2	54.7	28.0	69.0	91.7	88.0	41.5	8.8	28.6	1.63
2002	596.1	43.5	110.9	153.4	180.5	90.5	17.3	29.3	54.7	27.1	69.1	91.5	89.9	43.0	9.1	28.7	1.65
2003	621.5	44.2	116.6	156.9	187.2	97.4	19.1	29.4	56.8	26.9	71.3	95.8	94.9	46.4	9.8	28.8	1.73
2004	639.7	45.1	121.1	160.0	190.6	102.2	20.8	29.4	58.2	26.9	72.8	97.6	99.6	48.8	10.4	28.9	1.78
2005	645.8	44.8	122.1	164.3	188.2	104.1	22.2	29.5	58.3	26.3	71.6	97.9	100.7	50.3	10.8	29.1	1.79
2006	669.6	45.5	127.8	172.6	189.4	110.5	23.7	29.5	60.2	26.6	73.2	100.6	104.8	53.8	11.4	29.1	1.86
2007	690.0	44.8	130.8	182.6	191.1	115.4	25.4	29.5	62.0	26.0	73.5	104.0	110.2	56.9	12.0	29.3	1.92
2008	708.7	44.7	136.0	193.0	192.5	116.2	26.4	29.5	63.8	26.0	74.6	108.4	113.1	58.4	12.6	29.3	1.97
2004 March	155.2	11.0	29.3	38.7	46.6	24.7	4.9	29.4	56.8	26.5	70.8	95.0	97.9	47.4	9.8	28.9	1.74
June	157.4	10.7	29.3	39.4	47.7	25.2	5.0	29.5	57.6	25.7	70.9	96.6	100.4	48.5	10.1	29.0	1.76
Sept	165.4	11.7	31.4	41.6	49.0	26.3	5.4	29.4	59.9	27.7	75.0	101.0	102.0	50.1	10.7	28.9	1.83
Dec	161.7	11.6	31.1	40.3	47.2	26.0	5.5	29.4	58.5	27.6	74.3	97.7	98.2	49.4	10.9	28.9	1.79
2005 March	154.3	10.9	29.3	38.9	45.0	24.7	5.4	29.4	56.5	26.0	69.6	94.0	97.6	48.5	10.7	29.0	1.74
June	159.8	10.7	29.6	40.3	47.5	26.2	5.4	29.5	57.8	25.3	69.7	96.2	101.9	50.8	10.6	29.1	1.78
Sept	170.2	11.9	32.5	43.7	49.4	26.9	5.7	29.4	60.9	27.6	75.7	103.2	104.9	51.6	11.1	29.0	1.88
Dec	161.7	11.3	30.7	41.4	46.3	26.3	5.7	29.4	57.9	26.3	71.3	97.9	98.3	50.4	11.0	29.0	1.78
2006 March	159.5	11.1	30.5	40.7	45.3	26.3	5.6	29.5	58.2	26.3	70.9	96.1	101.6	52.0	11.0	29.1	1.79
June	166.2	11.4	31.2	42.9	47.6	27.1	5.9	29.5	60.0	26.6	71.8	100.4	105.7	53.0	11.3	29.1	1.85
Sept	174.9	12.0	33.5	45.6	49.0	28.9	6.0	29.4	62.4	27.7	76.1	105.4	107.5	55.9	11.4	29.1	1.93
Dec	169.0	11.1	32.6	43.5	47.5	28.1	6.2	29.5	60.3	25.7	74.0	100.5	104.3	54.4	11.8	29.2	1.86
2007 March	164.0	10.9	31.1	42.7	45.7	27.4	6.2	29.5	59.8	25.5	70.9	98.6	106.9	54.8	12.0	29.3	1.85
June	169.5	10.7	31.4	44.6	47.8	28.9	6.2	29.6	61.1	25.0	70.8	101.9	110.5	57.1	11.8	29.4	1.89
Sept	181.4	11.9	34.6	48.6	50.0	29.9	6.4	29.5	64.7	27.3	77.1	109.9	114.4	58.6	12.0	29.2	2.00
Dec	175.0	11.3	33.7	46.6	47.6	29.2	6.6	29.5	62.4	26.1	75.0	105.4	108.9	57.1	12.4	29.3	1.93
2008 March	173.8	11.1	33.5	46.7	47.2	28.8	6.4	29.5	62.9	26.0	74.0	105.5	111.6	58.2	12.3	29.3	1.94
June	177.0	11.0	33.5	48.3	48.4	29.2	6.6	29.5	64.1	25.8	73.9	109.2	114.4	59.1	12.6	29.4	1.98
Sept	182.4	11.4	35.2	50.3	49.3	29.5	6.7	29.4	65.3	26.5	76.8	112.4	115.3	59.0	12.8	29.3	2.02
Dec	175.5	11.1	33.8	47.7	47.6	28.7	6.7	29.5	62.9	25.8	73.7	106.5	111.4	57.4	12.6	29.3	1.94
2009 March	168.9[p]	10.9[p]	32.8[p]	46.2[p]	45.3[p]	27.2[p]	6.5[p]	29.4[p]	61.7[p]	26.1[p]	71.5[p]	102.9[p]	108.1[p]	57.1[p]	12.6[p]	29.4[p]	1.89[p]
June	175.1[p]	10.5[p]	33.2[p]	48.2[p]	47.7[p]	28.7[p]	6.8[p]	29.5[p]	63.3[p]	24.8[p]	71.8[p]	106.2[p]	112.5[p]	59.8[p]	13.0[p]	29.6[p]	1.94[p]

Note: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15–44, 15–19, and 40–44 respectively.
Rates for 2009 are based on 2008-based population projections for 2009.

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Standardised to take account of the age structure of the population. This measure is more appropriate for use when analysing trends or making comparisons between different geographies.

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).

4 Births per 1,000 women in the age-group; all quarterly age-specific fertility rates are adjusted for days in the quarter. They are not adjusted for seasonality.

p provisional.

Table 3.2 Live births outside marriage: age of mother and type of registration

England and Wales

Numbers (thousands), mean age and percentages

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Registration[2]: Joint: Same[3] address	Joint: Different[3] address	Sole
	Live births outside marriage (numbers)								Percentage of total live births in age group							As a percentage of all births outside marriage		
1971	65.7	21.6	22.0	11.5	6.2	3.2	1.1	23.7	*8.4*	*26.1*	*7.7*	*4.7*	*5.7*	*7.0*	*9.0*	*45.5*		*54.5*
1976	53.8	19.8	16.6	9.7	4.7	2.3	0.7	23.3	*9.2*	*34.2*	*9.1*	*4.4*	*5.2*	*8.6*	*10.1*	*51.0*		*49.0*
1981	81.0	26.4	28.8	14.3	7.9	1.3	0.9	23.4	*12.8*	*46.7*	*14.8*	*6.6*	*6.2*	*3.9*	*12.5*	*58.2*		*41.8*
1986	141.3	39.6	54.1	27.7	13.1	5.7	1.1	23.8	*21.4*	*69.0*	*28.2*	*12.1*	*10.1*	*12.6*	*14.7*	*46.6*	*19.6*	*33.8*
1991	211.3	43.4	77.8	52.4	25.7	9.8	2.1	24.8	*30.2*	*82.9*	*44.9*	*21.1*	*16.0*	*18.3*	*21.3*	*54.6*	*19.8*	*25.6*
1992	215.2	40.1	77.1	55.9	28.9	10.9	2.3	25.2	*31.2*	*83.7*	*47.2*	*22.8*	*17.3*	*19.3*	*22.9*	*55.4*	*20.7*	*23.9*
1993	216.5	38.2	75.0	57.5	31.4	11.9	2.5	25.5	*32.2*	*84.8*	*49.4*	*24.4*	*18.4*	*20.2*	*23.5*	*54.8*	*22.0*	*23.2*
1994	215.5	35.9	71.0	58.5	34.0	13.4	2.7	25.8	*32.4*	*85.5*	*50.6*	*25.5*	*18.9*	*21.2*	*25.2*	*57.5*	*19.8*	*22.7*
1995	219.9	36.3	69.7	59.6	37.0	14.4	3.0	26.0	*33.9*	*86.6*	*53.3*	*27.4*	*20.4*	*22.0*	*26.2*	*58.1*	*20.1*	*21.8*
1996	232.7	39.3	71.1	62.3	40.5	16.2	3.2	26.1	*35.8*	*88.0*	*56.5*	*29.5*	*21.7*	*23.4*	*26.7*	*58.1*	*19.9*	*21.9*
1997	238.2	41.1	69.5	63.4	42.2	18.2	3.7	26.2	*37.0*	*88.7*	*58.6*	*31.3*	*22.5*	*24.3*	*28.6*	*59.5*	*19.3*	*21.2*
1998	240.6	43.0	67.8	62.4	43.9	19.6	3.9	*26.3*	*37.8*	*89.1*	*59.7*	*32.3*	*23.3*	*24.8*	*29.0*	*60.9*	*18.3*	*20.8*
1999	241.9	43.0	67.5	61.2	45.0	20.8	4.3	*26.4*	*38.9*	*89.0*	*61.0*	*33.6*	*24.3*	*25.6*	*30.2*	*61.8*	*18.2*	*19.9*
2000	238.6	41.1	67.5	59.1	43.9	22.3	4.7	*26.5*	*39.5*	*89.7*	*62.6*	*34.6*	*24.4*	*26.2*	*31.0*	*62.7*	*18.2*	*19.2*
2001	238.1	39.5	68.1	56.8	45.2	23.3	5.1	26.7	*40.0*	*89.5*	*62.6*	*35.5*	*25.3*	*26.9*	*31.6*	*63.2*	*18.4*	*18.4*
2002	242.0	38.9	70.2	55.8	46.4	25.1	5.6	26.8	*40.6*	*89.5*	*63.3*	*36.4*	*25.7*	*27.7*	*32.2*	*63.7*	*18.5*	*17.8*
2003	257.2	39.9	75.7	58.2	49.2	27.8	6.4	26.9	*41.4*	*90.2*	*64.9*	*37.1*	*26.3*	*28.5*	*33.3*	*63.5*	*19.0*	*17.4*
2004	269.7	41.0	79.8	61.4	50.7	29.7	7.1	27.0	*42.2*	*91.0*	*65.9*	*38.4*	*26.6*	*29.0*	*34.0*	*63.6*	*19.6*	*16.8*
2005	276.5	41.2	82.1	64.4	50.8	30.3	7.7	27.0	*42.8*	*91.8*	*67.2*	*39.2*	*27.0*	*29.1*	*34.8*	*63.5*	*20.2*	*16.3*
2006	291.4	42.3	87.7	69.3	51.4	32.2	8.4	27.0	*43.5*	*93.0*	*68.6*	*40.1*	*27.1*	*29.2*	*35.5*	*63.7*	*20.8*	*15.6*
2007	305.6	41.7	91.9	76.0	53.0	34.0	9.0	27.1	*44.3*	*93.1*	*70.3*	*41.6*	*27.7*	*29.5*	*35.5*	*65.0*	*20.1*	*15.0*
2008	320.8	42.0	97.9	82.6	54.4	34.6	9.5	27.1	*45.3*	*93.9*	*71.9*	*42.8*	*28.3*	*29.8*	*35.9*	*65.5*	*20.3*	*14.2*
2003 March	61.0	9.8	18.0	13.9	11.6	6.3	1.5	26.8	*41.4*	*90.1*	*64.5*	*37.0*	*26.9*	*29.1*	*33.3*	*63.0*	*18.9*	*18.1*
June	62.8	9.6	18.3	14.2	12.2	6.9	1.6	27.0	*40.5*	*90.0*	*64.0*	*36.2*	*25.7*	*28.3*	*33.7*	*64.0*	*18.5*	*17.4*
Sept	67.6	10.3	20.0	15.3	13.0	7.3	1.7	26.9	*41.5*	*90.2*	*65.6*	*38.3*	*26.4*	*28.6*	*33.3*	*63.7*	*19.3*	*18.0*
Dec	65.8	10.2	19.5	14.9	12.5	7.3	1.6	26.9	*42.2*	*90.4*	*65.6*	*38.0*	*27.7*	*29.5*	*32.9*	*63.3*	*19.4*	*17.4*
2004 March	65.2	10.1	19.3	14.8	12.5	7.0	1.7	26.9	*42.0*	*91.2*	*65.8*	*38.2*	*26.8*	*28.2*	*34.3*	*63.1*	*19.4*	*17.4*
June	65.2	9.8	19.1	14.9	12.5	7.3	1.7	27.0	*41.4*	*91.0*	*65.1*	*37.7*	*26.2*	*28.8*	*34.5*	*63.9*	*19.5*	*16.6*
Sept	70.2	10.7	20.7	16.1	13.0	7.9	1.8	27.0	*42.4*	*91.2*	*66.1*	*38.6*	*26.5*	*30.0*	*33.5*	*63.7*	*19.7*	*16.6*
Dec	69.1	10.6	20.7	15.7	12.7	7.5	1.9	26.9	*42.7*	*90.6*	*66.6*	*39.0*	*27.0*	*29.0*	*33.9*	*63.6*	*19.8*	*16.6*
2005 March	66.3	10.1	19.6	15.2	12.2	7.3	1.9	27.0	*43.0*	*92.0*	*67.0*	*39.0*	*27.1*	*29.6*	*35.2*	*63.1*	*20.3*	*16.6*
June	66.6	9.8	19.7	15.4	12.5	7.4	1.8	27.0	*41.7*	*91.2*	*66.5*	*38.2*	*26.4*	*28.1*	*33.5*	*63.7*	*19.8*	*16.5*
Sept	73.7	10.9	22.1	17.3	13.4	7.9	2.1	26.9	*43.3*	*92.0*	*68.0*	*39.6*	*27.2*	*29.3*	*35.7*	*63.7*	*20.3*	*16.0*
Dec	69.9	10.4	20.7	16.5	12.6	7.7	2.0	27.0	*43.2*	*92.1*	*67.4*	*39.8*	*27.3*	*29.5*	*34.8*	*63.5*	*20.3*	*16.2*
2006 March	68.7	10.3	20.8	16.0	12.0	7.6	1.9	26.9	*43.1*	*93.1*	*68.1*	*39.4*	*26.5*	*28.9*	*34.4*	*63.1*	*20.9*	*16.0*
June	71.4	10.5	21.2	16.9	12.8	7.8	2.1	27.0	*43.0*	*92.6*	*68.0*	*39.4*	*26.9*	*28.8*	*35.0*	*63.7*	*20.6*	*15.6*
Sept	76.8	11.1	23.1	18.6	13.4	8.4	2.2	27.0	*43.9*	*92.8*	*69.0*	*40.7*	*27.3*	*29.2*	*36.9*	*64.1*	*20.5*	*15.4*
Dec	74.5	10.3	22.6	17.8	13.2	8.4	2.2	27.1	*44.1*	*93.3*	*69.2*	*40.9*	*27.8*	*29.8*	*35.7*	*63.6*	*21.0*	*15.4*
2007 March	72.5	10.2	21.7	17.6	12.6	8.2	2.2	27.1	*44.2*	*93.5*	*69.8*	*41.3*	*27.5*	*29.8*	*35.1*	*64.0*	*20.5*	*15.5*
June	73.5	9.9	21.8	18.3	13.0	8.3	2.2	27.1	*43.4*	*92.6*	*69.5*	*41.0*	*27.2*	*28.8*	*35.2*	*65.1*	*19.9*	*14.9*
Sept	80.8	11.1	24.4	20.4	13.9	8.8	2.2	27.0	*44.5*	*93.2*	*70.5*	*41.9*	*27.8*	*29.6*	*35.0*	*65.2*	*20.1*	*14.7*
Dec	78.7	10.6	24.0	19.7	13.5	8.7	2.4	27.1	*45.0*	*93.1*	*71.3*	*42.2*	*28.3*	*29.6*	*36.5*	*65.3*	*19.9*	*14.8*
2008 March	78.6	10.5	23.9	20.0	13.3	8.6	2.3	27.1	*45.2*	*94.3*	*71.1*	*42.8*	*28.3*	*29.9*	*35.9*	*65.3*	*20.0*	*14.7*
June	79.4	10.3	23.9	20.5	13.7	8.6	2.4	27.1	*44.9*	*93.5*	*71.5*	*42.3*	*28.4*	*29.5*	*35.8*	*66.0*	*19.8*	*14.2*
Sept	83.1	10.8	25.5	21.6	13.9	8.9	2.4	27.0	*45.5*	*94.0*	*72.4*	*43.0*	*28.2*	*30.1*	*36.2*	*65.8*	*20.4*	*13.8*
Dec	79.8	10.4	24.5	20.6	13.4	8.5	2.4	27.0	*45.5*	*93.7*	*72.5*	*43.2*	*28.2*	*29.6*	*35.8*	*64.9*	*21.1*	*14.0*
2009 March	77.8[p]	10.3[p]	23.9[p]	20.3[p]	13.0[p]	8.0[p]	2.3[p]	27.0[p]	*46.0[p]*	*94.4[p]*	*72.9[p]*	*43.9[p]*	*28.7[p]*	*29.5[p]*	*35.2[p]*	*64.9[p]*	*21.2[p]*	*13.9[p]*
June	79.4[p]	9.9[p]	24.3[p]	20.8[p]	13.6[p]	8.4[p]	2.4[p]	27.1[p]	*45.4[p]*	*94.4[p]*	*73.1[p]*	*43.1[p]*	*28.5[p]*	*29.4[p]*	*35.0[p]*	*65.7[p]*	*20.7[p]*	*13.6[p]*

1 Unstandardised and therefore takes no account of the age structure of the population.
2 Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).
3 Usual address(es) of parents.
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Table 4.1 Conceptions: age of woman at conception

England and Wales (residents)

Numbers (thousands) and rates; and percentage terminated by abortion

Year and quarter	Age of woman at conception								
	All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
(a) numbers (thousands)									
1991	853.7	7.5	40.1	101.6	233.3	281.5	167.5	57.6	12.1
1996	816.9	8.9	43.5	94.9	179.8	252.6	200.0	75.5	14.1
1999	774.0	7.9	42.0	98.8	157.6	218.5	197.1	86.0	16.0
2000	767.0	8.1	41.3	97.7	159.0	209.3	195.3	88.7	17.0
2001	763.7	7.9	41.0	96.0	161.6	199.3	196.7	92.2	17.8
2002	787.0	7.9	42.0	97.1	167.8	199.4	204.3	98.9	19.6
2003	806.8	8.0	42.2	98.6	175.3	199.8	209.0	103.1	20.9
2004	826.8	7.6	42.2	101.3	181.3	205.1	209.6	106.8	22.8
2005	841.8	7.9	42.3	102.3	185.5	211.3	209.2	110.0	23.6
2006	870.0	7.8	41.8	103.1	191.2	222.2	212.4	115.4	25.5
2007	895.9	8.2	43.0	106.3	198.7	234.8	211.5	118.0	26.5
2005 March	204.6	1.9	10.4	25.1	45.4	50.8	51.0	26.6	5.7
June	204.7	2.0	10.5	25.1	45.2	51.0	50.7	26.9	5.8
Sept	210.9	2.0	10.4	25.3	45.6	53.3	53.1	27.5	6.0
Dec	221.7	2.0	11.0	26.8	49.3	56.2	54.3	29.1	6.0
2006 March	214.0	1.8	10.2	25.4	47.5	54.2	52.4	28.3	6.2
June	212.6	2.1	10.6	25.7	46.9	53.8	51.4	28.3	6.5
Sept	215.1	2.0	10.0	24.7	46.3	55.3	53.6	28.9	6.4
Dec	228.2	2.0	11.0	27.3	50.6	58.9	55.1	29.9	6.5
2007 March	221.6	2.0	10.8	26.7	49.4	57.0	52.7	29.3	6.5
June	221.3	2.1	10.9	26.9	49.3	57.5	52.0	29.0	6.5
Sept	222.7	2.0	10.4	25.7	48.6	58.9	53.0	29.8	6.7
Dec	230.3	2.0	10.9	27.0	51.3	61.4	53.9	29.9	6.8
2008 March[2,P]	224.0	2.0	10.7	26.8	49.7	59.1	52.3	29.1	6.6
June[2,P]	215.9	2.0	10.5	25.9	48.4	56.8	49.1	27.9	6.5
Sept[2,P]	221.2	1.9	9.9	24.6	48.6	59.3	51.9	29.0	6.7
(b) rates (conceptions per thousand women in age group)									
1991	77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1996	76.2	9.5	46.3	63.2	110.1	127.6	96.3	40.7	8.4
1999	71.9	8.3	45.1	63.1	103.9	118.0	95.3	42.9	9.1
2000	70.9	8.3	43.9	62.5	103.2	115.7	95.3	43.2	9.4
2001	70.3	8.0	42.7	60.8	102.5	114.2	96.7	44.3	9.6
2002	72.2	7.9	42.9	60.6	104.4	119.0	101.7	47.0	10.3
2003	73.7	7.9	42.4	60.0	107.2	122.0	106.0	49.1	10.7
2004	75.2	7.5	41.8	60.3	109.0	125.1	109.6	51.0	11.4
2005	76.0	7.8	41.4	60.1	108.7	125.8	112.0	53.2	11.5
2006	78.3	7.8	40.9	60.2	109.5	129.5	117.5	56.3	12.3
2007	80.5	8.3	41.9	61.7	111.6	133.7	121.9	58.2	12.6
2005 March	75.1	7.6	41.5	60.0	108.9	123.8	109.8	51.8	11.4
June	74.2	8.0	41.1	59.1	106.7	122.1	108.5	52.0	11.4
Sept	75.5	7.8	40.5	59.0	105.7	125.6	113.3	52.8	11.7
Dec	79.3	7.9	42.8	62.4	113.6	131.7	116.7	55.9	11.5
2006 March	78.2	7.1	40.4	60.3	111.2	129.2	116.2	55.7	12.2
June	76.7	8.2	41.4	60.3	108.1	126.1	113.6	55.3	12.5
Sept	76.8	7.7	38.7	57.2	104.9	127.5	118.2	56.0	12.1
Dec	81.4	8.1	42.8	63.0	114.1	135.1	122.7	58.2	12.3
2007 March	80.8	8.1	42.9	63.0	113.4	132.8	121.2	58.4	12.6
June	79.8	8.7	42.8	62.6	111.4	131.7	119.7	57.2	12.5
Sept	79.4	8.2	40.1	59.1	108.1	132.9	121.5	58.4	12.6
Dec	82.2	8.3	42.1	62.3	113.3	138.0	124.1	59.0	12.8
2008 March[1,2,P]	80.8	8.1	42.4	62.9	110.4	132.5	122.1	58.4	12.7
June[1,2,P]	77.9	8.2	41.9	60.9	106.8	126.1	115.2	56.2	12.4
Sept[1,2,P]	79.2	7.7	38.7	57.1	105.8	132.1	121.4	58.2	12.7
(c) percentage terminated by abortion									
1991	*19.4*	*51.1*	*39.9*	*34.5*	*22.2*	*13.4*	*13.7*	*22.0*	*41.6*
1996	*20.8*	*49.2*	*40.0*	*36.2*	*25.7*	*15.6*	*14.1*	*21.2*	*37.6*
1999	*22.6*	*52.6*	*43.0*	*38.6*	*28.5*	*17.5*	*14.7*	*21.2*	*37.0*
2000	*22.7*	*54.0*	*44.2*	*39.3*	*29.2*	*17.7*	*14.5*	*20.5*	*35.4*
2001	*23.2*	*55.8*	*45.7*	*40.4*	*29.7*	*18.4*	*14.6*	*20.4*	*34.6*
2002	*22.5*	*55.6*	*45.3*	*39.9*	*28.8*	*17.9*	*13.9*	*19.5*	*34.6*
2003	*22.5*	*57.4*	*45.7*	*40.2*	*29.0*	*17.9*	*13.6*	*18.9*	*34.7*
2004	*22.4*	*57.2*	*45.6*	*40.1*	*28.9*	*18.2*	*13.2*	*18.3*	*33.0*
2005	*22.2*	*57.1*	*46.3*	*40.3*	*28.6*	*18.0*	*13.2*	*17.7*	*32.8*
2006	*22.3*	*59.8*	*48.4*	*41.9*	*28.7*	*18.0*	*13.1*	*17.1*	*31.8*
2007	*22.0*	*61.5*	*50.0*	*42.6*	*28.2*	*17.5*	*12.7*	*16.7*	*31.1*
2005 March	*22.5*	*57.5*	*47.3*	*41.1*	*29.2*	*18.1*	*13.1*	*18.0*	*32.6*
June	*22.7*	*57.0*	*45.8*	*40.3*	*28.9*	*18.6*	*13.9*	*17.8*	*33.8*
Sept	*21.4*	*56.2*	*45.3*	*39.0*	*27.5*	*17.5*	*12.6*	*17.2*	*32.1*
Dec	*22.2*	*57.5*	*46.9*	*40.6*	*28.2*	*17.8*	*13.1*	*17.7*	*32.7*
2006 March	*22.5*	*59.0*	*47.7*	*41.6*	*29.1*	*18.4*	*13.0*	*17.5*	*31.1*
June	*23.1*	*59.5*	*49.0*	*42.5*	*29.6*	*18.8*	*13.9*	*17.8*	*31.6*
Sept	*21.5*	*60.4*	*48.0*	*41.3*	*27.7*	*17.5*	*12.7*	*16.3*	*32.8*
Dec	*22.0*	*60.2*	*49.1*	*42.0*	*28.3*	*17.4*	*12.8*	*16.9*	*31.7*
2007 March	*22.7*	*62.6*	*50.7*	*43.2*	*29.5*	*18.3*	*13.0*	*16.9*	*31.1*
June	*22.5*	*61.9*	*50.3*	*43.1*	*28.6*	*18.0*	*12.8*	*16.9*	*31.5*
Sept	*21.0*	*57.9*	*48.5*	*41.3*	*26.9*	*16.5*	*12.3*	*16.0*	*30.8*
Dec	*21.8*	*63.6*	*50.4*	*42.6*	*28.0*	*17.2*	*12.5*	*16.8*	*30.8*
2008 March[2,P]	*22.6*	*62.1*	*50.6*	*43.9*	*29.0*	*17.9*	*13.1*	*16.8*	*31.2*
June[2,P]	*22.5*	*61.4*	*49.2*	*42.5*	*28.6*	*18.3*	*13.3*	*16.9*	*30.1*
Sept[2,P]	*21.2*	*61.3*	*49.0*	*41.8*	*27.5*	*17.0*	*12.7*	*15.7*	*29.8*

Note: Conception figures are estimates derived from birth registrations and abortion notifications.
Rates for women of all ages, under 16, under 18, under 20 and 40 and over are based on the population of women aged 15–44, 13–15, 15–17, 15–19 and 40–44 respectively.
For a quarterly analysis of conceptions to women under 18 for local authority areas see the ONS website, www.ons.gov.uk

1 Conception rates for March and June quarters of 2008 are calculated using 2007 mid-year population estimates. Rates for the September quarter of 2008 are calculated using mid-year population estimates for 2008. All rates will be updated using 2008 population estimates when final annual 2008 conception figures are released.

2 Figures for conceptions by age for the March and June quarters of 2008 exclude maternities relating to births in 2008 where the mother's date of birth was not stated on the registration and could not be supplied from another source. Figures for conceptions by age for the March, June and September quarters of 2008 exclude maternities relating to births in 2009 where the mother's age was not recorded.

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Table 4.2 Abortions: residents and non-residents; age and gestation (residents only)

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter	All ages			All women (residents)										
				Age group							Gestation weeks (percentages)			
	All[1] women	Residents[1]	Non-[1] residents	Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Under 9	9–12	13–19	20 and over
	Numbers (thousands)										Percentages			
1971	126.8	94.6	32.2	2.3	18.2	24.5	17.3	14.2	15.9	0.5	*16.6*	*57.9*	*21.8*	*1.0*
1976	129.7	101.9	27.8	3.4	24.0	23.6	19.3	14.6	14.7	0.5	*24.8*	*55.8*	*15.0*	*1.1*
1981	162.5	128.6	33.9	3.5	31.4	34.3	21.9	18.7	17.6	0.6	*31.0*	*53.4*	*13.5*	*1.3*
1986	172.3	147.6	24.7	3.9	33.8	45.3	28.7	18.0	17.5	0.4	*33.4*	*53.8*	*11.5*	*1.4*
1991	179.5	167.4	12.1	3.2	31.1	52.7	38.6	23.4	17.9	0.4	*35.2*	*52.9*	*10.6*	*1.2*
1996	177.5	167.9	9.6	3.6	28.8	46.4	39.3	28.2	21.1	0.4	*40.0*	*48.7*	*10.1*	*1.3*
1997	179.7	170.1	9.6	3.4	29.9	45.0	40.2	28.9	22.3	0.5	*41.2*	*47.9*	*9.6*	*1.2*
1998	187.4	177.9	9.5	3.8	33.2	45.8	40.4	30.4	23.8	0.5	*41.4*	*47.6*	*9.7*	*1.3*
1999	183.2	173.7	9.5	3.6	32.8	45.0	38.5	29.1	24.1	0.5	*42.5*	*46.5*	*9.5*	*1.4*
2000	185.4	175.5	9.8	3.7	33.2	47.1	37.9	28.7	24.4	0.5	*43.2*	*45.0*	*10.3*	*1.5*
2001	186.3	176.4	9.9	3.7	33.4	48.3	36.5	28.8	25.2	0.5	*42.8*	*45.0*	*10.6*	*1.6*
2002	185.4	175.9	9.5	3.7	33.0	48.4	35.8	28.5	26.0	0.5	*42.2*	*45.2*	*11.0*	*1.6*
2003	190.7	181.6	9.1	4.0	34.2	51.1	36.0	28.7	26.9	0.5	*43.6*	*43.7*	*11.1*	*1.6*
2004	194.5	185.7	8.8	3.8	35.5	52.8	37.8	28.1	27.3	0.5	*46.2*	*41.5*	*10.8*	*1.6*
2005	194.4	186.4	7.9	3.8	35.3	53.3	38.3	27.8	27.2	0.6	*53.6*	*35.7*	*9.3*	*1.4*
2006	201.2	193.7	7.4	4.0	37.3	55.3	40.4	28.2	27.9	0.7	*54.9*	*34.3*	*9.2*	*1.5*
2007	205.6	198.5	7.1	4.4	39.6	57.0	41.7	27.3	27.9	0.7	*57.9*	*31.9*	*8.8*	*1.5*
2008	202.2	195.3	6.9	4.1	38.6	56.2	41.9	27.0	26.9	0.7	*61.6*	*28.7*	*8.2*	*1.5*
2005 March	50.1	47.9	2.1	0.9	9.1	13.9	9.7	7.2	7.0	0.1	*47.2*	*40.4*	*11.0*	*1.4*
June	50.1	48.0	2.1	1.0	9.2	13.9	9.9	7.1	6.9	0.1	*53.8*	*35.6*	*9.2*	*1.4*
Sept	47.0	45.1	1.9	1.0	8.5	12.7	9.3	6.9	6.7	0.1	*56.5*	*33.6*	*8.5*	*1.3*
Dec	47.2	45.3	1.8	0.9	8.6	12.9	9.5	6.7	6.7	0.1	*57.2*	*32.9*	*8.3*	*1.5*
2006 March	52.4	50.4	2.0	1.0	9.8	14.6	10.4	7.2	7.3	0.2	*50.6*	*37.3*	*10.5*	*1.6*
June	51.3	49.3	2.0	1.0	9.4	14.2	10.3	7.2	7.1	0.2	*53.6*	*35.3*	*9.4*	*1.7*
Sept	49.8	47.9	1.8	1.0	9.2	13.6	10.0	7.0	6.9	0.2	*56.5*	*33.0*	*9.0*	*1.5*
Dec	47.7	46.0	1.6	1.0	8.8	13.0	9.6	6.7	6.7	0.1	*59.5*	*31.3*	*7.9*	*1.3*
2007 March	55.3	53.3	1.9	1.2	10.8	15.4	11.1	7.3	7.4	0.2	54.1	35.0	9.4	1.6
June	51.2	49.4	1.8	1.1	9.9	14.3	10.3	6.7	6.8	0.2	56.6	32.6	9.2	1.5
Sept	49.9	48.2	1.7	1.0	9.5	13.5	10.2	6.6	7.0	0.2	58.6	31.2	8.8	1.4
Dec	49.2	47.6	1.6	1.1	9.4	13.7	10.0	6.6	6.7	0.2	62.7	28.3	7.6	1.4
2008 March	53.4	51.6	1.8	1.1	10.5	14.8	10.8	7.0	7.2	0.2	58.4	31.0	9.0	1.6
June	52.5	50.8	1.8	1.1	10.1	14.6	10.9	6.9	7.0	0.2	60.8	29.5	8.3	1.4
Sept	48.7	47.0	1.7	1.0	9.2	13.4	10.3	6.5	6.5	0.2	62.9	27.6	8.0	1.4
Dec	47.5	45.9	1.6	1.0	8.8	13.3	9.9	6.5	6.2	0.2	64.8	26.2	7.6	1.4
2009 March[p]	51.7	50.0	1.7	1.1	9.8	14.7	10.6	6.9	6.8	0.2	61.0	28.4	8.9	1.7
June[p]	49.3	47.7	1.7	0.9	9.1	13.9	10.3	6.7	6.5	0.2	64.2	26.8	7.7	1.3
Rates (per thousand women residents)	ASR[2] (women 15–44)	Crude rate[3] (women 15–44)												
1971	9.9	10.1	:	2.3	13.9	13.1	10.7	10.0	5.6	0.3				
1976	10.2	10.5	:	2.9	16.9	14.2	10.4	9.2	5.3	0.3				
1981	11.9	12.4	:	3.0	19.4	18.6	13.1	10.1	5.9	0.4				
1986	13.0	13.5	:	3.7	22.0	21.9	15.5	10.8	5.1	0.3				
1991	15.0	15.2	:	3.8	24.0	27.1	18.5	12.6	5.1	0.3				
1996	16.0	15.7	:	3.9	24.2	28.4	19.9	13.6	6.0	0.2				
1997	16.3	15.9	:	3.7	24.4	28.8	20.7	13.8	6.2	0.3				
1998	17.1	16.6	:	4.0	26.8	30.2	21.2	14.6	6.5	0.3				
1999	16.8	16.2	:	3.8	26.3	29.7	20.8	14.1	6.4	0.3				
2000	17.0	16.3	:	3.9	26.9	30.7	20.9	14.1	6.3	0.3				
2001	17.0	16.2	:	3.7	26.6	30.6	20.9	14.2	6.4	0.3				
2002	17.0	16.1	:	3.7	25.8	30.1	21.4	14.2	6.5	0.3				
2003	17.5	16.6	:	3.9	26.1	31.2	22.1	14.6	6.6	0.3				
2004	17.8	16.9	:	3.7	26.5	31.9	23.3	14.7	6.7	0.3				
2005	17.8	17.0	:	3.7	26.3	32.0	23.6	14.5	6.6	0.3				
2006	18.3	17.5	:	3.9	27.3	32.5	24.3	15.1	6.8	0.4				
2007	18.6	17.9	:	4.4	28.9	32.6	24.3	15.1	6.7	0.4				
2008	18.2	17.6	:	4.2	27.8	31.6	23.9	15.6	6.5	0.4				
2005 March	18.4	17.5	:	3.7	27.0	33.5	23.8	15.2	6.8	0.3				
June	18.4	17.5	:	3.8	27.2	33.3	24.1	15.3	6.7	0.3				
Sept	17.3	16.4	:	3.8	25.2	30.5	22.6	14.8	6.5	0.3				
Dec	17.4	16.5	:	3.6	25.4	30.9	23.0	14.4	6.5	0.3				
2006 March	19.3	18.4	:	3.9	29.0	34.8	25.0	15.9	7.0	0.3				
June	18.9	18.0	:	3.9	27.8	33.8	24.7	16.0	6.8	0.4				
Sept	18.3	17.5	:	4.0	27.0	32.2	23.9	15.9	6.7	0.4				
Dec	17.5	16.8	:	4.0	25.9	30.8	22.8	15.3	6.5	0.3				
2007 March	20.0	19.2	:	4.7	31.4	35.3	25.6	16.7	7.2	0.4				
June	18.5	17.8	:	4.4	28.8	32.7	23.7	15.5	6.6	0.4				
Sept	18.0	17.4	:	4.2	27.7	30.8	23.3	15.4	6.8	0.4				
Dec	17.8	17.2	:	4.4	27.2	31.1	22.7	15.3	6.5	0.4				
2008 March	19.1	18.5	:	4.7	30.4	32.6	24.1	16.3	7.0	0.4				
June	18.7	18.2	:	4.4	29.3	32.1	24.1	16.0	6.9	0.3				
Sept	17.3	16.9	:	4.0	26.6	29.3	22.6	15.3	6.3	0.4				
Dec	16.9	16.4	:	4.1	25.4	29.0	21.5	15.2	6.1	0.3				
2009 March[p]	18.4	17.9	:	4.5	28.5	31.8	22.9	16.1	6.7	0.4				
June[p]	17.5	17.1	:	3.9	26.5	30.0	22.1	15.6	6.5	0.3				

Notes: Rates for under 16 and 45 and over are based on female populations aged 13–15 and 45–49 respectively.
1 Includes cases with not stated age and/or gestation week.
2 Rates for all women residents age-standardised to the European population for ages 15–44.
3 Includes incomplete forms that have been returned to practitioners.
p provisional

Table 5.1 Period expectation of life at birth and selected age

Constituent countries of the United Kingdom

Years

Year	Males								Year	Females							
	At birth	At age								At birth	At age						
		5	20	30	50	60	70	80			5	20	30	50	60	70	80
United Kingdom																	
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.8	1981	76.8	72.7	57.9	48.2	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.4	58.6	48.8	29.8	21.2	13.8	7.8
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.7	74.3	59.5	49.7	30.6	21.9	14.3	8.2
1996	74.2	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1996	79.4	74.9	60.1	50.3	31.2	22.3	14.5	8.3
2000	75.3	70.9	56.1	46.6	28.0	19.5	12.3	7.0	2000	80.1	75.6	60.8	51.0	31.9	23.0	15.0	8.6
2001	75.6	71.2	56.4	46.9	28.2	19.7	12.5	7.1	2001	80.4	75.8	61.0	51.2	32.1	23.2	15.1	8.7
2002	75.9	71.4	56.6	47.1	28.5	19.9	12.6	7.1	2002	80.5	75.9	61.1	51.3	32.2	23.3	15.2	8.7
2003	76.2	71.7	56.9	47.4	28.7	20.2	12.8	7.3	2003	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2004	76.5	72.0	57.3	47.7	29.0	20.5	13.1	7.4	2004	80.9	76.4	61.5	51.7	32.6	23.6	15.5	8.8
2005	76.9	72.4	57.6	48.0	29.4	20.8	13.4	7.6	2005	81.3	76.7	61.9	52.0	32.9	23.9	15.8	9.0
2006	77.2	72.7	57.9	48.3	29.6	21.1	13.6	7.7	2006	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2007	77.4	72.9	58.1	48.5	29.9	21.3	13.8	7.8	2007	81.6	77.1	62.2	52.4	33.2	24.3	16.1	9.2
England and Wales																	
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.5	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.8	26.1	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.3	45.8	27.1	18.6	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.1	56.4	46.8	28.1	19.6	12.3	7.0	2000	80.3	75.8	60.9	51.1	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.4	19.9	12.5	7.1	2001	80.5	76.0	61.2	51.3	32.2	23.3	15.2	8.7
2002	76.1	71.6	56.9	47.3	28.6	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.3	23.4	15.3	8.7
2003	76.4	71.9	57.2	47.6	28.9	20.3	12.9	7.3	2003	80.9	76.3	61.5	51.7	32.5	23.6	15.4	8.8
2004	76.8	72.3	57.5	47.9	29.2	20.6	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.7	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2006	77.4	72.9	58.2	48.5	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.2	52.4	33.2	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.0	21.4	13.9	7.8	2007	81.8	77.3	62.4	52.6	33.4	24.4	16.2	9.2
England																	
1981	71.1	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.2	48.4	29.4	20.9	13.4	7.5
1986	72.2	68.1	53.4	43.8	25.1	17.0	10.6	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.9	26.2	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.8	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.2	56.4	46.9	28.2	19.6	12.4	7.0	2000	80.3	75.8	61.0	51.2	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.5	19.9	12.6	7.1	2001	80.6	76.0	61.2	51.4	32.2	23.3	15.2	8.7
2002	76.1	71.7	56.9	47.4	28.7	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2003	76.5	72.0	57.2	47.6	28.9	20.4	12.9	7.3	2003	80.9	76.4	61.5	51.7	32.6	23.6	15.4	8.8
2004	76.8	72.3	57.6	48.0	29.2	20.7	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.8	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.1	52.3	33.1	24.1	15.9	9.1
2006	77.5	73.0	58.2	48.6	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.3	52.4	33.3	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.1	21.5	13.9	7.9	2007	81.9	77.3	62.4	52.6	33.4	24.4	16.2	9.2
Wales																	
1981	70.4	66.5	51.9	42.2	23.6	15.8	9.7	5.6	1981	76.4	72.3	57.5	47.7	28.9	20.5	13.1	7.4
1986	71.6	67.5	52.8	43.2	24.6	16.6	10.3	6.0	1986	77.5	73.3	58.5	48.7	29.7	21.1	13.7	7.8
1991	73.1	68.8	54.1	44.6	25.8	17.6	11.0	6.4	1991	78.8	74.3	59.5	49.7	30.6	21.8	14.3	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.3	6.4	1996	79.1	74.6	59.7	49.9	30.9	22.1	14.4	8.3
2000	74.8	70.4	55.7	46.2	27.6	19.1	12.0	6.8	2000	79.7	75.2	60.4	50.6	31.5	22.6	14.7	8.4
2001	75.3	70.8	56.0	46.6	28.0	19.5	12.3	7.0	2001	80.0	75.4	60.6	50.8	31.7	22.8	14.9	8.5
2002	75.5	70.9	56.2	46.8	28.2	19.7	12.4	7.1	2002	80.1	75.5	60.7	50.9	31.8	22.9	15.0	8.6
2003	75.8	71.2	56.5	47.0	28.4	19.9	12.6	7.2	2003	80.3	75.7	60.9	51.1	32.0	23.1	15.1	8.6
2004	76.1	71.6	56.8	47.3	28.7	20.2	12.8	7.3	2004	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.7
2005	76.6	72.0	57.3	47.7	29.2	20.6	13.2	7.6	2005	80.9	76.3	61.5	51.6	32.6	23.7	15.5	8.9
2006	76.7	72.1	57.4	47.8	29.3	20.8	13.4	7.6	2006	81.1	76.5	61.6	51.8	32.7	23.8	15.7	9.0
2007	76.9	72.3	57.5	48.0	29.5	21.0	13.5	7.7	2007	81.2	76.6	61.8	51.9	32.9	23.9	15.9	9.1
Scotland																	
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.6	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.7	57.9	48.1	29.2	20.7	13.5	7.9
1996	72.2	67.8	53.1	43.7	25.3	17.3	10.9	6.3	1996	77.9	73.3	58.5	48.8	29.8	21.2	13.8	8.0
2000	73.1	68.6	53.9	44.6	26.3	18.2	11.5	6.6	2000	78.6	74.0	59.2	49.4	30.5	21.8	14.1	8.1
2001	73.3	68.8	54.2	44.8	26.6	18.4	11.7	6.8	2001	78.8	74.2	59.4	49.6	30.7	22.0	14.3	8.2
2002	73.5	69.0	54.3	45.0	26.7	18.6	11.8	6.8	2002	78.9	74.3	59.5	49.7	30.8	22.1	14.4	8.2
2003	73.8	69.3	54.6	45.2	27.0	18.8	12.0	6.9	2003	79.1	74.5	59.7	49.9	30.9	22.2	14.5	8.3
2004	74.2	69.7	55.0	45.6	27.3	19.1	12.2	7.0	2004	79.3	74.7	59.9	50.1	31.1	22.4	14.7	8.4
2005	74.6	70.1	55.4	45.9	27.7	19.4	12.5	7.2	2005	79.6	75.0	60.2	50.4	31.4	22.7	14.9	8.5
2006	74.8	70.3	55.5	46.1	27.9	19.6	12.6	7.2	2006	79.7	75.1	60.3	50.5	31.5	22.8	15.0	8.6
2007	75.0	70.4	55.7	46.3	28.1	19.9	12.8	7.3	2007	79.9	75.2	60.4	50.6	31.7	22.9	15.1	8.6
Northern Ireland																	
1981	69.2	65.4	50.9	41.5	23.2	15.6	9.7	5.8	1981	75.5	71.6	56.8	47.1	28.3	20.0	12.8	7.3
1986	70.9	66.8	52.2	42.7	24.2	16.4	10.4	6.2	1986	77.1	72.9	58.1	48.3	29.3	20.8	13.4	7.8
1991	72.6	68.2	53.6	44.1	25.5	17.3	11.0	6.4	1991	78.4	74.0	59.2	49.4	30.3	21.6	14.2	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.4	6.6	1996	79.2	74.7	59.9	50.0	30.9	22.1	14.4	8.4
2000	74.8	70.4	55.7	46.2	27.6	19.1	11.9	6.6	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.6	8.2
2001	75.2	70.7	56.1	46.6	27.9	19.4	12.3	6.9	2001	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.4
2002	75.6	71.1	56.4	46.9	28.2	19.7	12.4	7.0	2002	80.4	75.9	61.0	51.2	32.0	23.1	15.1	8.5
2003	75.8	71.4	56.7	47.1	28.4	19.9	12.6	7.2	2003	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.6
2004	76.0	71.6	56.9	47.4	28.7	20.2	12.8	7.3	2004	80.8	76.3	61.4	51.6	32.5	23.5	15.4	8.7
2005	76.1	71.6	57.0	47.5	28.9	20.4	13.0	7.3	2005	81.0	76.4	61.6	51.8	32.7	23.7	15.6	8.8
2006	76.2	71.7	57.1	47.6	29.1	20.6	13.1	7.3	2006	81.2	76.6	61.8	52.0	32.8	23.9	15.7	8.9
2007	76.3	71.8	57.2	47.7	29.2	20.7	13.2	7.3	2007	81.2	76.6	61.8	52.0	32.9	24.0	15.7	8.9

Note: All figures are based on a three-year period, so that for instance 2003 represents 2002–2004. The population estimates used to calculate these life expectancies are the latest available at time of publication of the 2006–2008 interim life tables (21 October 2009). All figures are based on death registrations. A minor methodological change was introduced for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.

Table 6.1 Deaths: age and sex

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group: Under 1[1]	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
Numbers (thousands)														
Males														
1976	300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981	289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986	287.9	3.72	0.57	0.33	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991	277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1996	268.7	2.27	0.44	0.24	0.29	0.93	1.41	4.06	5.84	13.6	30.1	71.0	90.7	47.8
1999	264.3	2.08	0.41	0.22	0.28	0.90	1.27	3.85	5.93	13.6	28.7	64.3	90.4	52.3
2000	255.5	1.89	0.34	0.22	0.28	0.87	1.22	3.76	6.05	13.4	27.9	60.6	87.1	51.9
2001	252.4	1.81	0.32	0.19	0.28	0.88	1.27	3.63	6.07	13.3	27.5	57.5	87.0	52.7
2002	253.1	1.81	0.32	0.20	0.28	0.83	1.24	3.47	6.20	12.9	27.7	56.3	88.3	53.6
2003	253.9	1.81	0.31	0.19	0.24	0.81	1.23	3.26	6.32	12.7	28.2	55.1	89.6	54.0
2004	244.1	1.79	0.29	0.17	0.26	0.78	1.15	3.10	6.19	12.2	27.0	52.5	87.3	51.3
2005	243.3	1.87	0.28	0.16	0.25	0.75	1.11	2.89	6.14	12.1	27.3	51.0	84.8	54.7
2006	240.9	1.86	0.29	0.19	0.26	0.84	1.21	3.13	6.32	12.3	27.6	48.9	81.9	56.2
2007	240.8	1.88	0.34	0.18	0.23	0.80	1.22	3.14	6.26	11.9	27.5	47.8	80.6	58.9
2008	243.0	1.92	0.28	0.18	0.19	0.78	1.26	3.09	6.42	12.3	27.1	47.9	79.8	61.9
Females														
1976	298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981	288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986	293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991	292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1996	291.5	1.69	0.32	0.18	0.20	0.43	0.51	1.85	3.66	8.9	18.2	50.2	96.7	108.7
1999	291.8	1.55	0.30	0.17	0.22	0.39	0.47	1.67	3.79	9.0	18.0	45.1	93.9	117.2
2000	280.1	1.49	0.25	0.16	0.18	0.38	0.47	1.69	3.87	9.1	17.6	42.2	89.3	113.4
2001	277.9	1.43	0.27	0.19	0.18	0.38	0.47	1.59	3.77	8.9	17.6	40.5	88.8	113.9
2002	280.4	1.31	0.24	0.16	0.19	0.38	0.43	1.61	3.77	8.7	17.7	39.6	90.0	116.3
2003	284.4	1.50	0.28	0.15	0.19	0.35	0.46	1.57	3.86	8.5	18.0	39.0	92.7	117.9
2004	268.4	1.43	0.23	0.13	0.16	0.38	0.46	1.49	3.80	8.1	17.6	36.9	88.3	109.4
2005	269.1	1.37	0.22	0.13	0.18	0.38	0.48	1.48	3.81	8.2	17.8	36.0	86.4	113.1
2006	261.7	1.51	0.27	0.14	0.17	0.38	0.44	1.38	3.80	8.1	17.9	34.5	81.2	111.9
2007	263.3	1.46	0.24	0.12	0.19	0.36	0.45	1.36	3.79	8.1	18.2	33.9	79.4	115.8
2008	266.1	1.45	0.27	0.14	0.14	0.35	0.46	1.45	3.81	8.3	18.2	33.9	77.8	119.8
Rates (deaths per 1,000 population in each age group)														
Males														
1976	12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981	12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986	11.8	11.0	0.44	0.21	0.23	0.72	0.83	0.88	1.68	5.27	16.6	42.8	101.2	215.4
1991	11.2	8.3	0.40	0.21	0.23	0.72	0.89	0.94	1.76	4.56	13.9	38.1	93.1	205.6
1996	10.7	6.8	0.32	0.14	0.18	0.60	0.85	1.01	1.67	4.06	11.9	34.5	85.0	198.8
1999	10.4	6.5	0.31	0.12	0.16	0.56	0.83	0.99	1.60	3.99	10.9	31.6	79.9	194.4
2000	10.0	6.1	0.26	0.13	0.16	0.54	0.79	0.98	1.59	3.92	10.4	29.7	75.9	187.5
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.80	0.97	1.56	3.89	10.0	28.0	74.0	186.4
2002	9.8	5.9	0.25	0.12	0.16	0.49	0.77	0.94	1.57	3.86	9.7	27.2	73.5	187.7
2003	9.8	5.7	0.25	0.11	0.14	0.46	0.75	0.91	1.58	3.81	9.6	26.4	72.9	191.0
2004	9.4	5.5	0.23	0.10	0.15	0.44	0.67	0.87	1.53	3.67	9.0	25.0	69.9	176.0
2005	9.3	5.7	0.24	0.10	0.16	0.48	0.69	0.89	1.56	3.61	8.9	24.1	67.4	172.1
2006	9.1	5.4	0.23	0.12	0.15	0.46	0.67	0.89	1.55	3.58	8.8	23.2	64.7	163.4
2007	9.1	5.3	0.26	0.12	0.13	0.42	0.65	0.89	1.54	3.42	8.7	22.5	62.8	161.0
2008	9.1	5.3	0.21	0.12	0.11	0.43	0.65	0.87	1.59	3.45	8.6	22.1	61.4	161.4
2007 March	10.0	5.3	0.29	0.12	0.14	0.47	0.65	0.92	1.55	3.68	9.2	24.4	69.9	184.3
June	8.8	5.7	0.26	0.12	0.14	0.44	0.65	0.90	1.50	3.39	8.6	22.1	60.7	152.3
Sept	8.3	5.1	0.22	0.09	0.13	0.40	0.61	0.88	1.49	3.18	8.2	20.7	57.1	140.5
Dec	9.3	5.2	0.28	0.13	0.12	0.43	0.69	0.88	1.61	3.45	9.0	22.8	63.6	167.3
2008 March	9.7	5.4	0.21	0.12	0.11	0.37	0.60	0.84	1.57	3.66	9.0	23.4	65.8	177.7
June	8.9	5.3	0.22	0.12	0.12	0.45	0.61	0.87	1.59	3.40	8.5	21.7	60.0	155.2
Sept	8.2	5.1	0.18	0.13	0.10	0.44	0.70	0.88	1.57	3.27	8.1	20.4	55.1	139.0
Dec	9.5	5.4	0.25	0.09	0.12	0.46	0.71	0.89	1.63	3.48	8.6	22.8	64.7	173.7
2009[2] March[p]	9.9	5.4	0.18	0.06	0.13	0.43	0.57	0.81	1.61	3.42	9.0	22.9	67.1	182.7
June[p]	8.4	5.3	0.18	0.10	0.09	0.41	0.55	0.79	1.58	3.12	8.2	20.4	55.6	144.4
Females														
1976	11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981	11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986	11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.24	9.2	23.4	62.5	169.4
1991	11.2	6.4	0.33	0.16	0.15	0.29	0.33	0.44	1.05	2.87	8.2	21.8	58.7	161.6
1996	11.0	5.3	0.25	0.10	0.12	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	158.9
1999	11.0	5.1	0.24	0.10	0.13	0.25	0.31	0.43	1.01	2.61	6.7	19.2	53.4	162.6
2000	10.5	5.1	0.20	0.10	0.11	0.25	0.30	0.44	1.00	2.62	6.4	18.1	50.8	155.2
2001	10.4	4.9	0.22	0.12	0.11	0.24	0.30	0.42	0.96	2.57	6.3	17.4	50.1	155.0
2002	10.4	4.5	0.20	0.10	0.11	0.24	0.27	0.44	0.94	2.54	6.0	17.0	50.4	159.4
2003	10.6	4.9	0.24	0.10	0.12	0.21	0.28	0.43	0.95	2.51	5.9	16.7	51.3	165.6
2004	9.9	4.6	0.20	0.09	0.10	0.22	0.27	0.42	0.93	2.39	5.7	15.8	48.6	154.3
2005	9.9	4.4	0.19	0.09	0.11	0.22	0.27	0.40	0.90	2.38	5.6	15.4	48.1	152.7
2006	9.6	4.6	0.22	0.09	0.10	0.22	0.26	0.39	0.92	2.33	5.6	14.8	45.7	143.8
2007	9.6	4.3	0.19	0.08	0.12	0.21	0.25	0.39	0.92	2.27	5.6	14.5	44.9	143.6
2008	9.6	4.2	0.21	0.09	0.09	0.20	0.25	0.42	0.93	2.28	5.5	14.2	44.2	145.5
2007 March	10.9	4.5	0.24	0.07	0.12	0.27	0.27	0.38	0.97	2.31	5.9	16.3	51.7	167.0
June	9.2	4.6	0.21	0.10	0.13	0.18	0.22	0.44	0.86	2.31	5.5	14.1	42.8	136.0
Sept	8.5	4.1	0.14	0.06	0.11	0.18	0.28	0.36	0.87	2.22	5.2	12.9	40.0	124.3
Dec	9.8	4.2	0.16	0.10	0.12	0.20	0.25	0.38	0.96	2.25	5.7	14.7	45.4	147.9
2008 March	10.5	4.5	0.20	0.07	0.09	0.22	0.23	0.42	0.93	2.34	5.7	15.0	48.7	160.7
June	9.3	3.6	0.20	0.11	0.10	0.16	0.28	0.41	0.92	2.29	5.5	13.8	42.8	139.7
Sept	8.5	4.4	0.20	0.09	0.08	0.20	0.24	0.43	0.91	2.17	5.2	13.0	38.9	123.4
Dec	10.3	4.3	0.25	0.09	0.08	0.23	0.26	0.40	0.97	2.32	5.8	15.0	46.4	158.4
2009[2] March[p]	10.6	4.3	0.21	0.09	0.10	0.18	0.24	0.42	0.95	2.25	5.9	14.8	48.5	165.8
June[p]	8.5	4.4	0.17	0.09	0.07	0.19	0.20	0.39	0.85	2.08	5.2	12.9	39.1	124.9

Note: Figures represent the numbers of deaths registered in each year up to 1992 and the numbers of deaths occurring in each year from 1993 to 2005. From 2006 onwards the figures relate to the numbers of deaths registered in each year.

1 Rates per 1,000 live births.

2 Death rates for 2009 are based on the 2008-based population projections.

p provisional.

Table 6.2 Deaths: subnational

Government Office Regions of England

Rates

Year and quarter		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Total deaths (deaths per 1,000 population of all ages)										
1996		11.7	11.7	11.2	10.7	10.7	10.3	9.4	10.7	11.7
1997		11.6	11.6	11.1	10.5	10.6	10.2	9.0	10.6	11.7
1998		11.9	11.7	11.2	10.8	10.6	10.2	8.8	10.4	11.4
1999		11.6	11.5	10.9	10.7	10.7	10.3	8.7	10.5	11.6
2000		10.8	10.7	10.3	10.0	10.3	9.9	8.2	9.8	11.3
2001		11.1	11.0	10.4	10.1	10.2	9.9	7.9	9.9	11.0
2002		11.2	11.0	10.5	10.2	10.3	10.0	7.8	10.0	11.1
2003		11.3	11.0	10.5	10.3	10.5	9.9	7.9	9.9	11.2
2004		11.0	10.5	10.1	9.7	9.9	9.5	7.3	9.4	10.4
2005		10.8	10.4	9.9	9.7	9.9	9.4	7.1	9.4	10.4
2006		10.5	10.2	9.6	9.6	9.7	9.2	6.8	9.2	10.1
2007		10.4	10.3	9.7	9.4	9.7	9.1	6.7	9.1	10.2
2008		10.6	10.3	9.7	9.5	9.7	9.2	6.6	9.1	10.3
2007	March	11.8	11.7	10.9	10.6	11.0	10.2	7.4	10.0	11.5
	June	9.9	9.9	9.5	9.1	9.4	8.8	6.5	8.8	9.8
	Sept	9.4	9.2	8.8	8.5	8.5	8.3	6.1	8.2	9.2
	Dec	10.7	10.4	10.0	9.7	9.8	9.4	6.8	9.5	10.5
2008[1]	March	11.6	11.1	10.4	10.1	10.5	10.0	7.3	9.7	10.9
	June	10.1	9.9	9.5	9.4	9.4	9.0	6.5	8.9	9.9
	Sept	9.6	9.2	8.6	8.5	8.6	8.1	5.8	8.1	9.4
	Dec	11.3	10.9	10.3	10.3	10.2	9.7	7.0	9.6	10.8
2009[1]	March[p]	11.4	11.1	10.5	10.4	10.6	10.3	7.3	10.4	11.6
	June[p]	9.7	9.3	8.8	9.0	8.8	8.5	6.1	8.3	9.5
Infant mortality (deaths under 1 year per 1,000 live births)										
1996		6.2	6.3	6.5	6.3	6.8	5.3	6.3	5.3	5.5
1997		5.8	6.7	6.5	5.7	7.0	4.8	5.8	5.0	5.8
1998		5.0	6.3	6.9	5.6	6.5	5.0	6.0	4.4	4.8
1999		5.6	6.5	6.3	6.0	6.9	4.6	6.0	4.8	4.7
2000		6.5	6.2	7.3	5.4	6.8	4.4	5.4	4.4	4.7
2001		5.4	5.8	5.5	4.9	6.4	4.5	6.1	4.2	5.4
2002		4.8	5.4	6.1	5.6	6.6	4.3	5.5	4.5	4.3
2003		4.9	5.9	5.7	5.9	7.4	4.5	5.4	4.2	4.1
2004		4.6	5.4	5.8	4.9	6.3	4.2	5.2	3.9	4.5
2005		4.7	5.6	6.0	4.8	6.6	4.0	5.2	3.9	4.5
2006		5.4	5.6	5.7	5.4	6.4	4.1	4.9	4.1	4.0
2007		4.7	5.0	5.7	5.3	5.9	4.3	4.5	3.9	4.2
2008		4.2	5.2	5.4	4.9	6.5	4.4	4.3	4.0	4.0
2007	March	5.1	5.1	4.5	5.3	6.4	4.2	4.5	3.9	4.4
	June	4.5	5.5	7.2	6.5	6.1	3.9	5.1	4.3	3.9
	Sept	4.0	4.3	5.2	5.1	5.5	4.7	4.7	3.9	4.1
	Dec	5.3	5.2	5.7	4.3	5.7	4.4	4.0	3.5	4.2
2008	March	4.1	5.0	5.8	4.7	7.6	4.4	4.0	4.5	4.9
	June	4.5	4.8	4.6	4.8	6.7	4.2	3.9	3.7	3.0
	Sept	3.8	5.6	4.8	5.7	6.4	4.4	4.4	3.6	4.1
	Dec	4.4	5.2	6.4	4.3	5.5	4.5	4.8	4.3	3.9
2009	March[p]	4.3	4.8	6.4	5.8	6.1	3.9	4.6	4.5	4.2
	June[p]	3.8	5.5	4.8	5.3	7.0	3.7	4.6	3.8	4.7
Neonatal mortality (deaths under 4 weeks per 1,000 live births)										
1996		4.1	4.0	4.2	4.2	4.9	3.5	4.4	3.5	3.8
1997		3.7	4.3	4.4	3.7	5.0	3.3	3.7	3.4	3.9
1998		3.1	4.1	4.5	3.7	4.8	3.4	4.1	2.9	3.3
1999		4.1	4.4	4.1	4.3	4.8	3.0	4.1	3.2	3.2
2000		4.4	4.3	5.0	4.1	5.0	3.0	3.7	3.1	3.0
2001		3.5	3.8	3.2	3.4	4.4	2.9	4.1	2.9	3.7
2002		3.2	3.6	4.0	4.0	4.8	2.9	3.6	2.9	3.1
2003		3.2	4.1	4.0	4.2	5.1	3.0	3.7	2.8	2.9
2004		2.8	3.6	3.8	3.5	4.7	2.9	3.6	2.8	3.2
2005		2.9	3.8	4.0	3.5	4.9	2.6	3.4	2.7	3.2
2006		3.8	3.8	4.0	4.0	4.6	2.9	3.4	2.8	2.9
2007		3.0	3.3	4.0	3.6	4.5	3.0	3.1	2.6	2.8
2008		3.2	3.5	3.3	3.5	4.6	3.0	2.8	2.8	2.8
2007	March	4.0	3.8	3.3	3.4	4.8	2.9	3.0	2.6	3.0
	June	1.8	3.7	5.2	4.5	4.6	2.6	3.5	3.0	2.5
	Sept	2.6	2.7	3.5	3.5	4.2	3.1	3.1	2.5	3.1
	Dec	3.7	2.9	3.8	2.8	4.6	3.6	2.7	2.4	2.7
2008	March	3.2	3.3	4.0	3.6	5.8	3.0	2.7	2.9	3.1
	June	2.9	3.4	2.7	3.3	4.3	2.7	2.6	2.7	2.4
	Sept	3.1	3.6	3.1	4.1	4.8	2.9	2.9	2.6	2.8
	Dec	3.6	3.6	3.6	3.0	3.5	3.3	3.1	3.0	2.9
2009	March[p]	2.7	2.9	4.0	3.9	4.5	3.0	3.0	2.7	2.6
	June[p]	3.0	3.7	3.5	3.9	4.5	2.8	2.9	2.2	3.0
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)										
1996		9.2	8.6	8.3	8.7	10.2	7.5	9.6	7.8	7.5
1997		8.0	8.9	8.3	7.7	9.6	7.3	9.0	7.3	8.7
1998		8.2	8.7	9.2	8.0	9.3	7.4	9.0	6.8	7.3
1999		8.2	8.7	8.3	7.8	9.9	7.0	9.0	6.9	7.8
2000		8.5	8.6	9.6	7.8	9.6	7.1	9.0	6.6	6.6
2001		7.8	8.7	7.5	7.9	9.1	7.1	8.9	6.9	7.2
2002		8.1	8.5	9.0	8.5	10.0	7.5	9.3	6.9	6.8
2003		7.8	9.0	9.1	9.5	10.2	7.3	9.6	7.0	7.0
2004		7.9	8.4	9.4	8.1	9.6	7.6	9.3	7.0	7.2
2005		7.8	8.2	9.4	7.6	9.9	6.4	8.5	6.8	6.8
2006		8.0	8.3	8.5	8.4	9.2	6.7	8.8	7.0	6.6
2007		7.2	7.9	8.8	7.3	9.1	7.0	8.4	6.7	6.4
2008		8.1	7.8	7.9	7.4	9.3	6.5	7.8	6.7	6.6
2007	March	7.5	8.5	7.8	6.8	9.5	7.6	8.5	6.8	6.8
	June	6.8	7.4	9.2	8.6	9.8	6.7	9.1	7.1	6.5
	Sept	7.4	7.3	8.9	7.1	7.8	7.0	8.6	6.1	6.4
	Dec	7.2	8.5	9.1	6.7	9.5	6.8	7.6	6.7	6.1
2008	March	6.7	8.2	9.3	7.8	11.5	6.1	7.7	6.7	6.4
	June	7.4	8.0	7.7	7.5	9.4	6.5	7.7	6.6	6.3
	Sept	8.3	8.1	6.9	6.8	8.3	6.4	7.4	5.9	7.3
	Dec	10.1	6.8	7.9	7.7	8.1	6.9	8.6	7.6	6.5
2009	March[p]	6.4	7.7	8.3	9.7	9.4	7.5	8.0	6.8	6.9
	June[p]	7.2	7.7	7.6	8.3	10.0	7.0	7.3	6.5	7.2

Note: Figures represent the numbers of deaths occurring in each year up to 2005. From 2006 onwards the figures relate to the numbers of deaths registered in each year. The 2008 perinatal rates have been updated to include the late receipt of 14 stillbirth records.

1 Total deaths rates for 2008 and 2009 have been calculated using the mid-2008 population estimates published on 27 August 2009.

p provisional.

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Table 6.3 Deaths: selected causes (International Classification)[1] and sex

England and Wales

Number (thousands) and rate for all deaths and age-standardised rates per million population for selected causes

Year and quarter	All deaths		All causes (age - standardised rates per million population[2])	Malignant neoplasms									
	Number (thousands)	Crude rate per 100,000 population		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
			A00–R99 V01–Y89	(C15)	(C16)	(C18)	(C19–C21)	(C33–C34)	(C43)	(C44)	(C50)	(C53)	(C56)
Males													
1971	288.4	1,207	13,466	76	317	187	144	1,066	10	12	4	:	:
1981	289.0	1,196	12,189	90	251	181	135	1,028	17	9	3	:	:
1991	277.6	1,125	10,291	117	185	194	117	842	23	10	3	:	:
1998	264.7	1,064	8,981	129	132	169	95	643	26	8	3	:	:
1999	264.3	1,044	8,862	127	127	161	90	611	27	7	2	:	:
2000	255.5	1,005	8,437	128	118	158	89	592	28	7	2	:	:
2001	252.4	987	8,188	129	111	155	89	570	26	7	3	:	:
2002	253.1	985	8,081	131	110	151	90	559	27	8	3	:	:
2003	253.9	982	8,000	135	102	145	90	539	28	8	2	:	:
2004	244.1	939	7,554	129	95	143	92	521	30	9	2	:	:
2005	243.3	929	7,356	132	93	137	92	515	28	8	2	:	:
2006	240.9	913	7,123	131	83	132	90	509	31	7	2	:	:
2007	240.8	906	6,949	128	82	128	88	498	31	8	3	:	:
2008	243.0	907	6,854	131	79	129	90	496	31	7	2	:	:
2007 March	65.4	998	7,616	126	88	132	86	523	33	7	2	:	:
June	58.2	879	6,756	130	84	122	86	493	31	8	3	:	:
Sept	55.2	824	6,340	128	80	126	87	470	29	7	3	:	:
Dec	62.0	926	7,096	129	78	132	94	509	31	9	3	:	:
2008 March	64.6	970	7,297	136	80	132	88	509	29	5	1	:	:
June	59.1	887	6,718	126	77	130	90	479	33	8	2	:	:
Sept	55.4	823	6,259	126	79	129	92	484	30	8	2	:	:
Dec	63.9	950	7,147	135	78	127	91	510	33	6	1	:	:
2009[3] March	65.8[p]	989[p]	7,310[p]	129[p]	70[p]	131[p]	84[p]	481[p]	28[p]	7[p]	2[p]	:	:
June	56.6[p]	841[p]	6,286[p]	134[p]	77[p]	123[p]	87[p]	488[p]	33[p]	7[p]	2[p]	:	:
Females													
1971	278.9	1,104	8,189	40	149	176	79	183	14	6	379	83	126
1981	288.9	1,134	7,425	42	111	157	74	252	16	5	405	69	121
1991	292.5	1,122	6,410	50	74	146	61	300	18	4	401	54	118
1998	290.3	1,108	5,945	49	54	117	47	291	21	3	328	35	116
1999	291.8	1,097	5,929	52	51	115	46	289	20	3	319	33	111
2000	280.1	1,049	5,655	51	48	107	45	285	21	3	311	33	109
2001	277.9	1,038	5,543	48	46	103	45	283	20	3	308	31	112
2002	280.4	1,043	5,524	51	44	103	44	284	19	3	302	29	112
2003	284.4	1,055	5,575	50	42	98	46	285	20	3	293	27	108
2004	268.4	1,075	5,206	48	41	96	46	283	19	3	278	26	100
2005	269.4	990	5,188	48	39	96	46	290	21	3	284	26	102
2006	261.7	956	4,989	48	35	93	46	300	19	4	277	24	99
2007	263.3	957	4,921	47	35	92	48	300	21	4	267	24	96
2008	266.1	962	4,898	47	35	90	48	307	22	3	263	23	93
2007 March	74.0	1,091	5,523	50	35	92	49	315	22	4	284	25	95
June	62.8	916	4,757	48	31	88	45	296	22	4	267	22	97
Sept	58.8	847	4,408	40	37	91	47	285	21	3	251	22	97
Dec	67.7	976	5,007	51	37	96	49	306	20	4	269	25	94
2008 March	71.8	1,045	5,247	50	36	86	47	302	20	3	269	24	93
June	64.0	930	4,760	46	36	86	47	298	21	3	259	23	91
Sept	58.9	846	4,399	43	34	94	45	299	23	3	254	24	92
Dec	71.4	1,027	5,190	48	33	93	50	329	24	2	268	23	96
2009[3] March	72.9[p]	1,063[p]	5,287[p]	45[p]	32[p]	88[p]	49[p]	301[p]	19[p]	3[p]	267[p]	23[p]	91[p]
June	59.1[p]	851[p]	4,376[p]	45[p]	32[p]	82[p]	46[p]	294[p]	19[p]	2[p]	253[p]	23[p]	90[p]

Note: Figures represent the number of deaths registered in each year up to 1992 and the number of deaths occurring in each year from 1993 to 2005. The number of deaths for 2006 onwards relate to registrations.
The rates by cause of death in this table are based on final underlying cause. For further details see the Explanatory Notes in the 'Report: Death registrations in England and Wales, 2004: causes' in HSQ26.
Death rates from 2002 to 2005 have been updated to include the latest revised mid-year population estimates that take into account improved estimates of international migration.

1 The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979. The Tenth Revision of the International Classification of Diseases, 1992, came into operation in England and Wales on 1 January 2001. The cause descriptions and codes relate to ICD-10. For changes to this table see 'In Brief', *Health Statistics Quarterly* 14.
2 Directly age-standardised to the European Standard Population. See Notes to Tables.
3 Death rates for 2009 are provisional and based on the 2008-based population projections for 2009.
p Provisional.

Table 6.3 continued **Deaths: selected causes (International Classification)[1] and sex**

England and Wales

Age-standardised rates[2] per million population for selected causes

Malignant neoplasms													
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebro vascular diseases	Pneumonia	Bronchitis, emphysema and other chronic obstructive pulmonary disease	Asthma	Gastric and duodenal ulcer	Diseases of the liver	Land transport accidents	Intentional self-harm and events of undetermined intent	Year and quarter
(C61)	(C67)	(C91–C95)	(E10–E14)	(I20–I25)	(I60–I69)	(J12–J18)	(J40–J44)	(J45–J46)	(K25–K27)	(K70–K76)	(V01–V89)	(X60–X84, Y10–Y34)	
													Males
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	1971
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981
304	121	77	131	2,984	940	391	606	31	73	76	125	160	1991
277	99	67	94	2,215	706	720	463	18	60	115	86	152	1998
272	93	67	94	2,095	673	770	474	18	64	119	86	151	1999
260	92	67	88	1,959	622	735	416	17	59	119	86	141	2000
274	93	70	94	1,872	690	388	403	16	55	139	86	134	2001
271	90	68	91	1,784	690	388	396	15	56	144	83	131	2002
273	87	71	91	1,703	662	408	411	14	53	157	84	129	2003
267	85	67	83	1,566	595	360	364	15	50	151	77	125	2004
256	80	67	79	1,470	555	353	368	12	46	156	75	118	2005
250	81	68	74	1,353	520	320	343	10	45	161	83	123	2006
247	81	66	71	1,280	481	303	337	11	39	162	79	119	2007
240	79	65	73	1,211	468	301	346	10	40	164	70	125	2008
252	83	66	77	1,442	541	395	433	11	44	178	84	115	2007 March
246	80	69	65	1,249	465	286	311	11	37	154	77	121	June
233	78	61	65	1,146	429	226	265	9	35	152	73	116	Sept
257	82	69	75	1,287	489	306	339	11	40	167	82	125	Dec
239	75	64	75	1,326	514	362	413	11	48	164	68	108	2008 March
228	78	65	73	1,196	453	284	322	8	39	161	72	121	June
238	77	61	69	1,071	409	225	260	8	34	162	70	137	Sept
253	86	69	75	1,253	495	335	392	12	39	169	70	135	Dec
246[P]	80[P]	69[P]	72[P]	1,317[P]	515[P]	408[P]	428[P]	11[P]	41[P]	155[P]	63[P]	119[P]	2009[3] March
238[P]	78[P]	59[P]	63[P]	1,072[P]	401[P]	248[P]	287[P]	9[P]	37[P]	149[P]	57[P]	125[P]	June
													Females
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	1971
:	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981
:	34	44	95	1,407	812	325	211	30	46	49	45	51	1991
:	32	41	65	1,055	645	546	226	22	41	64	28	43	1998
:	30	45	65	986	629	591	241	22	39	67	28	45	1999
:	31	39	62	907	577	546	216	20	41	68	24	45	2000
:	29	41	62	878	620	307	220	19	39	77	23	40	2001
:	30	43	65	843	616	316	224	20	37	79	24	41	2002
:	30	39	66	811	606	337	244	20	36	81	24	41	2003
:	28	39	60	736	548	296	214	17	35	78	20	38	2004
:	28	39	57	686	519	298	224	17	32	81	22	38	2005
:	29	36	54	629	478	261	213	16	29	87	24	39	2006
:	27	38	53	592	455	251	218	14	26	87	23	35	2007
:	27	37	51	562	442	255	226	15	27	86	21	38	2008
:	29	40	58	689	517	353	298	18	28	96	23	33	2007 March
:	29	36	49	569	439	228	204	14	27	86	27	31	June
:	24	34	50	520	399	178	156	12	24	80	22	35	Sept
:	26	41	56	591	464	249	217	14	26	86	20	39	Dec
:	29	36	54	612	486	319	263	17	28	91	21	33	2008 March
:	28	36	51	547	431	236	206	14	26	85	22	39	June
:	25	36	46	499	380	170	159	11	27	78	24	40	Sept
:	27	37	53	590	472	296	275	17	27	92	18	40	Dec
:	27[P]	34[P]	58[P]	576[P]	482[P]	348[P]	288[P]	18[P]	28[P]	86[P]	17[P]	36[P]	2009[3] March
:	28[P]	35[P]	45[P]	490[P]	378[P]	189[P]	180[P]	12[P]	21[P]	82[P]	16[P]	37[P]	June

See notes opposite.

Notes to tables

Time series
For most tables, years start at 1971 or 1976 and then at five-year intervals. Individual years are shown thereafter. If a year is not present the data are not available.

United Kingdom
The United Kingdom comprises England, Wales, Scotland and Northern Ireland. The Channel Islands and the Isle of Man are not part of the United Kingdom.

Population
The estimated resident population of an area includes all people who usually live there, whatever their nationality. Members of HM and US Armed Forces in England and Wales are included on a residential basis wherever possible. HM Forces stationed outside England and Wales are not included. Students are taken to be resident at their term time addresses.

Further information on population estimates can be found on the Office for National Statistics website at: www.statistics.gov.uk/popest

Live births
For England and Wales, figures relate to the number of births occurring in a period; for Scotland and Northern Ireland, figures relate to births registered in a period. By law, births must be registered within 42 days in England and Wales, within 21 days in Scotland, and within 42 days in Northern Ireland. In England and Wales, where a birth is registered later than the legal time period, and too late to be included in the count for the year of occurrence, it will be included in the count for the following year.

Perinatal mortality
In October 1992 the legal definition of a stillbirth was changed, from baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

Period expectation of life
The life tables on which these expectations are based use death rates for the given period to describe mortality levels for each year. Each individual year shown is based on a three-year period, so that for instance 1986 represents 1985–87. More information is available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=14459

Deaths
Figures for England and Wales relate to the number of deaths registered in each year up to 1992, and the number of deaths occurring in a year between 1993 and 2005. From 2006 onwards, all figures relate to the number of deaths registered in the year. All figures for Scotland and Northern Ireland relate to the number of deaths registered in each year.

Coding cause of death
Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the International Classification of Diseases (ICD) Section Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombembolic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases ONS Rule 3 allowed the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and between 1 January 1993 and 31 December 2000, such certificates were coded to the terminal event. National Statistics also introduced automated coding of cause of death in 1993, which may also affect comparisons of deaths by cause from 1993. Further details can be found in the annual volumes *Mortality statistics: Cause 1984*, Series DH2 no. 11, and *Mortality statistics: Cause 1993 (revised) and 1994*, Series DH2 no. 21.

From 1 January 2001, under ICD–10, Rule 3 was again changed – for details see the article in *Health Statistics Quarterly* 13. This resulted in a fall in the death rates from respiratory diseases, notably pneumonia, and consequently slight rises in the rates for other causes (for example strokes). For details of the major changes between ICD–9 and ICD–10, see the articles in *Health Statistics Quarterly* 08, 13 and 14.

Age-standardised mortality rates
Directly age-standardised rates make allowances for changes in the age structure of the population. The age-standardised rate for a particular condition is that which would have occurred if the observed age-specific rates for the condition had applied in a given standard population. Table 2.2 and 6.3 use the European standard population. This is a hypothetical population standard which is the same for both males and females allowing standardised rates to be compared for each sex, and between males and females.

Abortions
Figures relate to numbers occurring in a period.

Calculating quarterly rates
Quarterly rates are calculated using seasonal adjustments which take into account the number of days in the month/year. The denominators used for calculating quarterly rates have been produced from mid-year population estimates and projections.

Marriages and divorces
Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute. The term 'divorces' includes decrees of nullity. The fact that a marriage or divorce has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean that either of the parties is resident there.

Civil Partnerships
The *Civil Partnership Act 2004* came into force on 5 December 2005 in the UK, the first day couples could give notice of their intention to form a civil partnership. The first day that couples could normally form a partnership was 19 December 2005 in Northern Ireland, 20 December 2005 in Scotland and 21 December 2005 in England and Wales. (18 civil partnerships were formed under special arrangements before these dates. These are included in the figures for England and Wales.)

Civil partnerships are tabulated according to date of formation and area of occurrence. The fact that a civil partnership has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean either of the parties is resident there.

Sources
Figures for Scotland and Northern Ireland have been provided by the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency respectively.

Rounding
All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to one decimal place (for example 123.4); where appropriate, for small figures (below 10.0), two decimal places are given (for example 7.62). Figures which are provisional or estimated are given in less detail (for example 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures
Figures for the latest quarters and years may be provisional and will be updated in future issues when later information becomes available. Where figures are not yet available, cells are left blank.

Report:

Life expectancy at birth and at age 65 by local areas in the United Kingdom, 2006–08

Lynsey Kyte and Emma Gordon
Office for National Statistics

Key findings

- In 2006–08 life expectancy at birth for males was highest in the South East of England (79.2 years) and lowest in Scotland (75.0 years). For females, life expectancy was highest in the South West of England (83.1 years) and lowest in Scotland (79.9 years)
- Life expectancy at age 65 in 2006–08 was highest in the South East and South West of England for males (18.4 years) and in the South West of England for females (21.2 years). Scotland had the lowest life expectancy at 65 for both men and women; 16.3 years and 18.9 years respectively
- For local areas, life expectancy at birth for males and females in 2006–08 was highest in Kensington and Chelsea (84.3 years and 88.9 years respectively) and lowest in Glasgow City (70.7 years and 77.2 years respectively)
- In 2006–08 life expectancy at age 65 for males and females was highest in Kensington and Chelsea (23.1 years and 26.3 years respectively) and lowest in Glasgow City (13.8 years and 17.4 years respectively)

This report presents the latest figures on male and female period life expectancy (this term is explained below in Methods) at birth and at age 65 for the UK, its constituent countries, Government Office Regions in England, and local areas for 2006–08.

Results

All figures are three-year averages, produced by aggregating the number of deaths and mid-year population estimates across each three-year period to provide large enough numbers to ensure that the figures presented are sufficiently robust.

Life expectancy at birth

Results for 2006–08 showed a similar geographic pattern to previous years, with inequalities in life expectancy persisting across the UK. The South East, South West and East of England continued to have the highest life expectancies at birth, while figures were lowest in Scotland and in the North West and North East of England. For males, there was a difference of 4.2 years between the South East which had the highest life expectancy (79.2 years) and Scotland where life expectancy was lowest (75.0 years). For females, the corresponding gap between the South West (83.1 years) and Scotland (79.9 years) was 3.2 years.

The local areas with the highest and lowest life expectancy at birth in the UK in 2006–08 for males and females are presented in Tables 1 and 2 respectively.

Table 1 **Local areas with the highest and lowest male life expectancy at birth, 2006–08**

United Kingdom

Rank	Local area	Country/English Government Office Region	Life expectancy at birth (years)
Highest life expectancy at birth			
1	Kensington and Chelsea	London	84.3
2	Westminster	London	82.9
3	Fareham	South East	81.4
4	Hart	South East	81.3
5	Elmbridge	South East	81.3
6	South Bucks	South East	81.2
7	East Dorset	South West	81.2
8	Epsom and Ewell	South East	81.2
9	Wokingham	South East	81.1
10	South Cambridgeshire	East of England	81.1
Lowest life expectancy at birth			
1	Glasgow City	Scotland	70.7
2	West Dunbartonshire	Scotland	72.1
3	Inverclyde	Scotland	72.8
4	North Lanarkshire	Scotland	73.1
5	Belfast	Northern Ireland	73.4
6	Eilean Siar	Scotland	73.5
7	Blackpool	North West	73.6
8	Renfrewshire	Scotland	73.6
9	Dundee City	Scotland	73.7
10	Manchester	North West	73.8

Table 2 Local areas with the highest and lowest female life expectancy at birth, 2006–08

United Kingdom

Rank	Local area	Country/English Government Office Region	Life expectancy at birth (years)
Highest life expectancy at birth			
1	Kensington and Chelsea	London	88.9
2	Westminster	London	85.8
3	Hart	South East	85.4
4	East Dorset	South West	85.1
5	Chiltern	South East	85.0
6	Christchurch	South West	84.8
7	Vale of White Horse	South East	84.6
8	Guildford	South East	84.6
9	Rochford	East of England	84.6
10	New Forest	South East	84.5
Lowest life expectancy at birth			
1	Glasgow City	Scotland	77.2
2	West Dunbartonshire	Scotland	78.1
3	North Lanarkshire	Scotland	78.4
4	East Ayrshire	Scotland	78.5
5	Inverclyde	Scotland	78.6
6	Blaenau Gwent	Wales	78.8
7	Renfrewshire	Scotland	78.8
8	Blackpool	North West	78.8
9	Liverpool	North West	78.8
10	Halton	North West	78.8

As in 2005–07, the local area with the highest life expectancy for males was Kensington and Chelsea (84.3 years). The local area with the lowest male life expectancy was Glasgow City (70.7 years), 13.6 years lower than Kensington and Chelsea. This gap widened by 0.7 years from 12.9 years in 2005–07. For females, Kensington and Chelsea also had the highest life expectancy at birth (88.9 years), 11.7 years higher than Glasgow City, the area with the lowest figure (77.2 years). This gap increased by 1.0 year from 10.7 years in 2005–07.

Life expectancy at age 65

Life expectancies at age 65 in 2006–08 show similar geographical patterns to the results at birth. The highest life expectancies were in the South East and South West of England and the lowest were in Scotland and the North East of England. In Scotland, life expectancy at age 65 for males was 16.3 years, 2.1 years lower than for men in the South East and South West, who could expect to live another 18.4 years. Females in Scotland had a life expectancy at 65 of 18.9 years, 2.3 years lower than women in the South West of England (21.2 years).

Table 3 Local areas with the highest and lowest male life expectancy at age 65, 2006–08

United Kingdom

Rank	Local area	Country/English Government Office Region	Life expectancy at age 65 (years)
Highest life expectancy at age 65			
1	Kensington and Chelsea	London	23.1
2	Westminster	London	22.3
3	Crawley	South East	20.6
4	Rutland	East Midlands	19.8
5	Ceredigion	Wales	19.8
6	Lewes	South East	19.8
7	Tandridge	South East	19.7
8	East Dorset	South West	19.7
9	Christchurch	South West	19.7
10	South Cambridgeshire	East of England	19.6
Lowest life expectancy at age 65			
1	Glasgow City	Scotland	13.8
2	North Lanarkshire	Scotland	15.1
3	West Dunbartonshire	Scotland	15.2
4	Inverclyde	Scotland	15.4
5	Renfrewshire	Scotland	15.5
6	Liverpool	North West	15.5
7	Belfast	Northern Ireland	15.6
8	Halton	North West	15.7
9	Hartlepool	North East	15.7
10	Clackmannanshire	Scotland	15.7

Table 4 Local areas with the highest and lowest female life expectancy at age 65, 2006–08

United Kingdom

Rank	Local area	Country/English Government Office Region	Life expectancy at age 65 (years)
Highest life expectancy at age 65			
1	Kensington and Chelsea	London	26.3
2	Westminster	London	23.5
3	East Dorset	South West	23.0
4	Hart	South East	22.8
5	West Somerset	South West	22.7
6	Lewes	South East	22.6
7	Brent	London	22.6
8	Hammersmith and Fulham	London	22.5
9	Christchurch	South West	22.4
10	North Dorset	South West	22.3
Lowest life expectancy at age 65			
1	Glasgow City	Scotland	17.4
2	West Dunbartonshire	Scotland	17.8
3	Halton	North West	17.8
4	North Lanarkshire	Scotland	17.8
5	Renfrewshire	Scotland	17.9
6	Falkirk	Scotland	18.0
7	West Lothian	Scotland	18.1
8	Liverpool	North West	18.1
9	Burnley	North West	18.1
10	East Ayrshire	Scotland	18.2

The local areas with the highest and lowest life expectancy at age 65 in the UK for males and females are presented in Tables 3 and 4 respectively.

At local area level in 2006–08, Kensington and Chelsea had the highest life expectancy at age 65 for males (23.1 years) and females (26.3 years). The area with the lowest estimates for both sexes was Glasgow City; 13.8 years for men and 17.4 years for women. This was the only area in the UK where life expectancy at age 65 was less than 14 years. The gaps between the highest and lowest life expectancies at age 65 for males and females were 9.3 years and 8.9 years respectively, 0.4 years and 1.1 years respectively wider than the gaps in 2005–07.

Table 5 includes results for the UK, its constituent countries, Government Office Regions in England, and local areas for life expectancy at birth and at age 65 for 2006–08, and their relative rank order. Results are presented alphabetically by local area name within each constituent country and English region.

Methods

Local areas

The term 'local area' refers to local and unitary authorities in England and Wales, council areas in Scotland and local government district areas in Northern Ireland. Two local areas, City of London and Isles of Scilly, are excluded from the results because of the small numbers of deaths and populations.

On 1 April 2009, there was a reorganisation of local and unitary authorities in England, which created nine new unitary authorities. Figures based on the new boundaries are presented in this report. Figures based on the previous boundaries are available on the Office for National Statistics website at:
www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

Interpretation of period life expectancy

All figures presented here are period life expectancies. Period expectation of life at a given age for an area in a given time period is an estimate of the average number of years a person of that age would survive if he or she experienced the particular area's age-specific mortality rates for that time period throughout the rest of his or her life. The figure reflects mortality among those living in the area in each time period, rather than mortality among those born in each area. It is not therefore the number of years a person in the area in each time period could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those in the area may live elsewhere for at least some part of their lives.

Period life expectancy at birth is also not a guide to the remaining expectation of life at any given age. For example, if female life expectancy was 80 years for a particular area, the life expectancy of women aged 65 years in that area would exceed 15 years. This reflects the fact that survival from a particular age depends only on the mortality rates beyond that age, whereas survival from birth is based on mortality rates at every age.

Calculation

Life expectancy figures were calculated by the Office for National Statistics (ONS), except those for Scotland which were calculated by the General Register Office for Scotland (GROS) using the same methods.

Abridged life tables were constructed using standard methods.[1,2] Separate tables were constructed for males and females. The tables were created using numbers of deaths registered in each calendar year and annual mid-year population estimates. A detailed description of the standard methods and notation associated with the calculation of life expectancy can be found on the Government Actuary's Department website.[3,4]

The calculation of confidence intervals (available on the Office for National Statistics website) used the method developed by Chiang.[5] A report detailing research undertaken by ONS to compare methodologies to allow the calculation of confidence intervals for life expectancy at birth has been published in the National Statistics Methodology Series. The report, 'Life expectancy at birth: methodological options for small populations', also presents research carried out to establish if there is a minimum population size below which the calculation of life expectancy may not be considered feasible.[6]

An example of a life table constructed using the same method used to calculate life expectancy and confidence intervals in this report can be found on the Office for National Statistics website at:
www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

Comparison with national results

The national interim life tables are the definitive life expectancy figures for the entire UK and constituent countries. National interim life tables are calculated using complete life tables (based on single years of age) and are published separately on the Office for National Statistics website at:
www.statistics.gov.uk/statbase/Product.asp?vlnk=14459

To provide comparisons for local area and regional figures, ONS has also calculated national life expectancy results, which are included in Table 5. These were produced using the same methods as the subnational results, with abridged life tables in which death and population figures are aggregated into quinary age groups. Therefore, the two sets of national figures may differ very slightly (normally by less than 0.1 years for England and Wales).

Figures for England will also differ slightly from the national interim life table results because of a difference in the handling of deaths of non-residents. For this report, the deaths of non-residents have been included in the mortality figures for England and Wales, but are excluded from the data for England and Wales separately. However, for the national interim tables, the deaths of non-residents in England and Wales have been included in the mortality data for England (but not Wales).

Differences between period and cohort life expectancies

Expectations of life can be calculated in two ways: period life expectancy (as presented in this report) and cohort life expectancy.

Cohort life expectancies are calculated using age-specific mortality rates which allow for known or projected changes in mortality in later years and are therefore regarded as a more appropriate measure of how long a person of a given age would be expected to live, on average, than period life expectancy.

For example, period life expectancy at age 65 in 2000 would be worked out using the mortality rate for age 65 in 2000, for age 66 in 2000, for age 67 in 2000, and so on. Cohort life expectancy at age 65 in 2000 would be worked out using the mortality rate for age 65 in 2000, for age 66 in 2001, for age 67 in 2002, and so on.

Period life expectancies are a useful measure of mortality rates actually experienced over a given period and, for past years, provide an objective means of comparison of the trends in mortality over time, between areas of a country and with other countries. Official life tables in the UK and in other countries which relate to past years are generally period life tables for these reasons. Cohort life expectancies, even for past years, usually require projected mortality rates for their calculation and so, in such cases, involve an element of subjectivity.

More information on the differences between period and cohort life expectancies can be found on the Office for National Statistics website.[7]

Results on the Office for National Statistics website

The life expectancy at birth and at age 65 results presented in this report can also be found – presented with 95 per cent confidence intervals – in a series of Microsoft Excel workbooks on the Office for National Statistics website at:
www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

The four workbooks contain:

- results for the UK – figures for 1991–93 to 2006–08 for the UK, England and Wales, England, Wales, Scotland and Northern Ireland. Tables are also included which show the rank order of local areas in the UK for 2005–07 and 2006–08 (pre-1 April 2009 boundaries)

- results for England and Wales – figures for 1991–93 to 2006–08 for local and unitary authorities (pre-1 April 2009 boundaries; 2006–08 figures are also available for boundaries as of 1 April 2009), and Government Office Regions in England. Figures for counties in England are also included for 2005–07 and 2006–08

- results for Scotland – figures for 1991–93 to 2006–08 for council areas in Scotland. Figures for health boards are also included for 2006–08

- results for Northern Ireland – figures for 1991–93 to 2006–08 for local government district areas and health and social service boards in Northern Ireland

Results for 1991–93 to 2006–08 have also been published on the Office for National Statistics website as a set of animated maps to show the change in life expectancy at local area level over time. These are available at:
www.statistics.gov.uk/life-expectancy/default.asp

Life expectancy results for local areas in Scotland for 2006–08 were first published in a report on 24 September 2009 on the General Register Office for Scotland website (accessed on 24 September 2009), available at: www.gro-scotland.gov.uk/statistics/publications-and-data/life-expectancy/index.html

Results for Scotland and other small areas within Scotland can also be found on the Scottish Public Health Observatory website (accessed 24 September 2009), available at: www.scotpho.org.uk/home/Comparativehealth/Profiles/chp_profiles.asp

Further information

For additional information about the data presented here, please contact:

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Table 5

Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

United Kingdom

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
United Kingdom	77.5		17.5		81.7		20.2	
England and Wales	77.8		17.7		82.0		20.3	
England	77.9		17.7		82.0		20.3	
Government Office Regions and local areas within England								
North East	76.4		16.7		80.6		19.3	
County Durham	76.7	293	16.6	342	80.5	343	19.1	356
Darlington	76.3	321	17.2	285	80.5	344	19.3	341
Gateshead	76.2	330	16.8	326	80.5	339	19.3	336
Hartlepool	75.3	373	15.7	396	79.0	391	18.7	380
Middlesbrough	75.4	365	16.4	360	79.8	377	18.6	385
Newcastle upon Tyne	75.7	354	16.4	358	80.6	335	19.5	307
North Tyneside	76.6	296	16.6	339	80.6	331	19.3	344
Northumberland	77.9	208	17.6	221	81.5	264	19.8	279
Redcar and Cleveland	77.2	255	17.1	293	81.1	301	19.8	288
South Tyneside	76.2	326	16.5	349	80.3	359	19.2	351
Stockton-on-Tees	76.4	312	16.9	313	80.9	312	19.2	348
Sunderland	75.4	367	16.1	382	80.4	347	18.8	375
North West	76.3		16.8		80.6		19.4	
Allerdale	77.4	248	17.1	289	80.6	332	19.5	312
Barrow-in-Furness	76.4	314	16.5	347	80.8	320	19.9	271
Blackburn with Darwen	74.4	391	16.1	379	79.5	386	18.3	394
Blackpool	73.6	398	16.4	359	78.8	397	18.6	381
Bolton	75.5	361	16.6	343	79.9	373	19.4	334
Burnley	75.5	363	17.0	307	79.1	390	18.1	396
Bury	76.6	299	16.4	357	80.9	316	19.1	355
Carlisle	77.1	272	17.2	271	81.4	277	20.3	225
Cheshire East	78.6	166	17.9	178	82.5	158	20.5	174
Cheshire West and Chester	78.1	191	17.7	201	81.9	218	20.0	259
Chorley	77.2	265	17.3	258	81.3	280	19.6	300
Copeland	77.2	262	17.4	246	79.8	374	19.1	359
Eden	79.0	122	17.9	179	83.0	110	21.2	89
Fylde	78.6	162	18.2	133	82.2	190	20.3	215
Halton	74.8	383	15.7	397	78.8	395	17.8	402
Hyndburn	75.3	374	16.5	345	80.0	366	18.8	374
Knowsley	75.5	362	16.0	383	79.2	389	18.4	390
Lancaster	76.9	283	17.2	274	80.8	321	19.8	287
Liverpool	74.3	393	15.5	399	78.8	396	18.1	397
Manchester	73.8	395	15.7	393	78.9	394	18.4	391
Oldham	75.4	369	16.1	376	79.4	387	18.5	387
Pendle	76.4	310	17.5	231	81.4	276	20.5	171
Preston	75.2	375	16.3	366	80.0	369	18.9	368
Ribble Valley	79.2	107	18.1	155	83.4	67	21.0	123
Rochdale	75.6	355	16.3	362	79.8	375	19.1	358
Rossendale	75.7	350	16.0	386	80.4	354	18.7	378
Salford	74.5	386	16.0	387	79.0	393	18.3	393
Sefton	77.0	276	17.3	265	81.5	256	19.9	270
South Lakeland	79.4	93	18.9	47	82.8	126	21.1	110
South Ribble	77.8	215	17.6	228	81.7	242	19.8	284
St. Helens	75.8	349	16.3	368	80.3	361	19.1	354
Stockport	77.9	213	17.6	224	82.5	161	20.8	144
Tameside	75.7	353	16.1	378	79.6	381	18.4	389
Trafford	78.1	200	18.0	174	82.4	172	20.4	190
Warrington	76.8	289	16.5	346	80.6	336	19.1	361
West Lancashire	77.7	221	17.3	270	80.8	319	19.2	353
Wigan	75.6	356	16.1	381	79.8	376	18.6	382
Wirral	75.9	341	16.6	338	81.0	310	19.8	285
Wyre	77.7	224	17.6	218	81.9	217	20.3	221
Yorkshire and The Humber	77.1		17.2		81.3		19.8	
Barnsley	76.0	337	16.1	377	80.1	364	18.8	373
Bradford	76.1	335	16.7	334	80.1	363	19.0	362
Calderdale	77.1	267	17.4	250	81.5	257	20.1	253
Craven	79.7	71	18.7	75	83.7	49	20.9	126
Doncaster	76.1	334	16.8	325	80.9	314	19.6	302
East Riding of Yorkshire	78.8	144	18.1	149	82.3	175	20.4	187
Hambleton	80.2	33	19.0	39	83.3	80	21.2	90
Harrogate	79.4	87	18.5	99	82.7	137	20.6	164
Kingston upon Hull, City of	75.0	379	16.1	380	79.5	385	18.6	386
Kirklees	76.5	305	17.0	304	80.7	327	19.3	342
Leeds	77.2	266	17.4	251	81.9	223	20.3	203

1 The 95 per cent confidence intervals for these results are available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

2 Life expectancy figures are presented to one decimal place. The rankings in this table reflect differences in the unrounded numbers.1= Highest, 404 = Lowest.

Table 5 continued

Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

United Kingdom

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
North East Lincolnshire	75.9	344	16.6	337	80.8	318	19.5	314
North Lincolnshire	77.3	254	17.5	240	81.0	302	19.8	282
Richmondshire	78.9	133	18.2	138	82.6	143	20.9	139
Rotherham	76.5	304	16.5	350	80.7	328	19.4	325
Ryedale	79.3	103	18.4	116	82.8	135	21.5	49
Scarborough	77.4	246	17.6	219	81.9	226	20.5	180
Selby	78.4	176	17.5	232	82.6	145	20.2	229
Sheffield	77.5	235	17.5	238	81.5	269	19.9	265
Wakefield	76.3	320	16.7	335	80.6	330	19.4	331
York	79.4	94	18.6	82	83.2	98	20.9	135
East Midlands	77.8		17.5		81.8		20.2	
Amber Valley	78.2	186	17.7	210	82.0	208	20.3	204
Ashfield	76.5	302	16.6	340	80.7	324	19.4	315
Bassetlaw	77.1	269	17.1	296	81.2	288	19.3	343
Blaby	79.9	56	19.2	29	83.5	65	21.7	35
Bolsover	76.2	329	16.0	384	80.5	345	18.7	379
Boston	76.3	317	17.1	291	81.2	291	20.0	257
Broxtowe	78.8	146	17.6	229	82.2	188	20.3	209
Charnwood	79.0	124	18.2	141	82.8	128	20.9	132
Chesterfield	77.2	258	17.0	302	82.1	204	19.9	275
Corby	74.4	390	16.9	315	80.4	348	19.4	329
Daventry	78.5	171	18.0	171	82.2	187	20.0	255
Derby	77.2	261	17.3	262	81.5	260	20.3	218
Derbyshire Dales	79.5	83	18.5	88	83.0	115	20.9	131
East Lindsey	77.4	242	18.0	169	81.6	252	20.2	235
East Northamptonshire	79.3	96	18.0	173	81.6	250	19.4	318
Erewash	77.5	239	17.3	269	81.6	251	20.1	247
Gedling	78.4	175	17.8	196	82.4	173	20.5	181
Harborough	80.1	44	18.8	61	83.7	45	21.7	32
High Peak	78.7	152	18.3	118	81.9	220	20.8	147
Hinckley and Bosworth	79.6	75	18.3	117	82.9	119	20.5	172
Kettering	78.6	164	17.8	191	81.8	236	20.4	188
Leicester	75.5	360	16.2	371	79.9	371	18.9	369
Lincoln	76.6	297	17.4	249	80.4	349	19.5	308
Mansfield	76.1	332	16.7	331	80.7	326	19.7	290
Melton	79.2	106	18.2	131	82.5	163	20.7	153
Newark and Sherwood	77.5	234	17.4	247	81.5	255	20.3	227
North East Derbyshire	78.4	179	17.4	244	81.6	253	19.6	304
North Kesteven	78.8	141	17.7	204	83.1	105	20.9	134
North West Leicestershire	77.9	211	17.5	239	81.9	219	20.3	219
Northampton	77.2	260	17.4	252	81.9	224	20.4	191
Nottingham	75.1	378	15.9	390	80.1	365	19.4	322
Oadby and Wigston	79.9	49	18.6	84	82.5	162	20.6	163
Rushcliffe	80.1	40	18.5	96	83.9	35	21.1	99
Rutland	80.1	43	19.8	4	84.5	11	22.1	15
South Derbyshire	78.0	205	17.5	233	81.8	234	20.0	262
South Holland	78.2	189	17.6	216	81.4	271	20.5	176
South Kesteven	78.5	172	18.1	152	82.1	198	20.2	233
South Northamptonshire	80.1	41	18.5	87	83.3	84	21.1	106
Wellingborough	77.7	220	17.3	264	83.0	117	20.9	127
West Lindsey	79.0	121	18.4	114	81.1	294	20.6	165
West Midlands	77.2		17.4		81.6		20.1	
Birmingham	75.9	343	16.8	321	81.0	307	19.9	267
Bromsgrove	79.5	80	17.7	202	81.8	238	19.9	272
Cannock Chase	76.3	323	16.5	351	80.4	350	18.9	371
Coventry	76.5	308	17.2	272	81.1	300	20.3	206
Dudley	77.2	259	17.2	282	81.9	231	20.1	246
East Staffordshire	77.0	280	17.0	309	81.2	290	20.0	261
Herefordshire, County of	78.6	169	18.2	139	83.4	72	21.3	75
Lichfield	78.7	154	17.7	205	81.5	268	19.4	323
Malvern Hills	79.2	109	18.4	105	83.2	93	20.9	136
Newcastle-under-Lyme	77.0	273	17.2	283	81.9	228	20.2	243
North Warwickshire	77.7	225	16.9	320	81.2	293	19.2	346
Nuneaton and Bedworth	76.7	295	17.1	294	80.9	315	19.4	333
Redditch	77.6	230	17.2	278	81.5	262	20.2	228
Rugby	79.2	111	18.0	166	81.9	215	20.4	194
Sandwell	74.3	392	16.1	375	80.0	367	19.0	365
Shropshire	78.6	165	18.4	101	82.7	140	20.8	143
Solihull	78.9	138	18.1	160	83.5	61	21.8	27
South Staffordshire	79.0	127	17.9	175	82.0	212	19.7	291
Stafford	78.2	188	17.9	185	82.3	180	20.3	198
Staffordshire Moorlands	78.4	178	17.6	227	82.0	209	19.9	276
Stoke-on-Trent	75.4	370	16.0	385	79.8	378	18.9	367

1 The 95 per cent confidence intervals for these results are available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

2 Life expectancy figures are presented to one decimal place. The rankings in this table reflect differences in the unrounded numbers.1= Highest, 404 = Lowest.

Table 5 continued

Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

United Kingdom

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
Stratford-on-Avon	79.3	99	18.1	153	82.6	152	20.5	175
Tamworth	78.2	184	17.8	187	81.2	287	19.6	296
Telford and Wrekin	77.4	249	17.4	255	81.5	266	20.4	193
Walsall	75.8	347	16.8	323	81.3	282	19.8	277
Warwick	79.2	108	18.9	49	83.4	66	21.4	55
Wolverhampton	75.7	352	17.1	295	80.5	342	19.7	294
Worcester	77.0	275	17.2	280	82.1	205	20.5	182
Wychavon	79.5	81	18.6	83	83.8	43	21.6	43
Wyre Forest	78.2	185	18.3	128	82.5	164	20.9	129
East of England	78.9		18.2		82.7		20.7	
Babergh	79.1	119	18.2	132	84.0	28	21.4	60
Basildon	78.2	183	17.7	200	81.6	247	19.9	268
Bedford	78.6	168	18.4	102	82.1	197	20.3	226
Braintree	78.9	131	17.9	182	82.8	133	20.5	173
Breckland	79.4	85	18.2	136	82.8	127	20.6	168
Brentwood	79.7	64	18.4	106	83.6	54	21.5	45
Broadland	79.7	69	18.2	142	83.4	78	20.7	160
Broxbourne	79.5	82	18.7	73	82.9	123	20.9	128
Cambridge	78.1	203	17.5	230	82.8	134	20.6	170
Castle Point	79.7	63	18.3	120	82.1	201	20.1	252
Central Bedfordshire	79.1	120	18.0	167	82.4	167	20.3	211
Chelmsford	80.2	36	19.0	38	84.2	23	21.9	22
Colchester	78.7	155	18.1	151	83.3	86	21.3	71
Dacorum	79.6	72	18.6	78	83.1	107	21.0	116
East Cambridgeshire	80.5	23	18.7	66	83.8	38	21.7	38
East Hertfordshire	79.8	59	18.9	50	83.2	94	21.1	103
Epping Forest	78.9	139	17.7	198	82.1	200	20.0	260
Fenland	77.3	250	17.4	254	81.3	285	20.0	263
Forest Heath	79.3	102	18.4	109	83.9	32	21.5	53
Great Yarmouth	77.4	244	17.8	190	81.6	254	19.9	266
Harlow	78.0	204	18.1	163	83.2	99	21.4	63
Hertsmere	78.8	149	17.9	176	82.8	124	20.6	167
Huntingdonshire	79.1	114	18.2	135	83.0	111	20.9	130
Ipswich	77.9	212	17.8	192	82.6	148	20.6	169
King's Lynn and West Norfolk	78.8	147	18.7	65	82.2	193	20.9	138
Luton	76.7	294	17.3	259	80.4	352	19.2	352
Maldon	78.6	161	17.8	188	82.8	130	20.3	200
Mid Suffolk	80.2	35	18.7	70	83.6	58	21.4	61
North Hertfordshire	78.6	167	17.8	195	82.2	184	20.1	248
North Norfolk	78.7	150	18.8	56	84.3	14	22.2	13
Norwich	77.8	217	18.4	111	83.0	112	21.6	40
Peterborough	76.8	288	17.2	286	81.0	305	19.7	292
Rochford	79.8	62	18.1	161	84.6	9	21.7	30
South Cambridgeshire	81.1	10	19.6	10	84.5	12	21.9	21
South Norfolk	80.0	46	19.5	13	83.3	88	21.3	86
Southend-on-Sea	77.6	233	17.6	215	81.8	239	20.0	258
St Albans	80.4	29	18.4	100	83.4	77	21.0	124
St Edmundsbury	79.7	66	18.8	60	83.8	41	21.5	48
Stevenage	77.4	247	17.3	263	82.0	210	20.3	210
Suffolk Coastal	80.6	20	19.0	44	83.8	37	21.5	52
Tendring	78.3	180	18.3	124	82.1	203	21.0	125
Three Rivers	80.6	19	19.1	35	83.7	44	21.0	113
Thurrock	77.9	214	17.0	301	81.8	233	20.2	232
Uttlesford	79.5	79	17.8	193	83.7	46	21.2	87
Watford	77.5	236	17.1	287	81.3	278	19.6	301
Waveney	79.0	126	18.4	104	82.7	139	21.0	121
Welwyn Hatfield	79.3	105	18.5	91	82.3	176	20.3	222
London	78.2		18.1		82.7		21.0	
Barking and Dagenham	76.4	313	16.8	322	80.6	334	19.4	319
Barnet	79.9	52	19.0	43	84.0	27	21.7	33
Bexley	79.1	117	18.3	129	82.7	136	21.0	111
Brent	78.9	140	19.5	12	84.0	31	22.6	7
Bromley	79.7	65	18.7	74	83.6	57	21.4	66
Camden	77.8	218	17.7	212	82.6	144	20.8	151
Croydon	78.9	137	18.7	68	82.2	182	20.5	183
Ealing	78.7	151	18.8	53	83.1	106	21.3	80
Enfield	78.8	148	18.3	119	82.7	141	20.8	141
Greenwich	75.4	364	16.3	365	81.7	243	20.3	214
Hackney	75.9	340	17.6	213	82.2	192	21.7	31
Hammersmith and Fulham	78.3	182	18.4	110	84.3	18	22.5	8
Haringey	76.3	322	17.2	275	83.1	102	21.6	41
Harrow	80.4	28	19.2	31	84.2	22	22.0	18
Havering	78.5	174	17.7	199	82.5	160	20.6	162

1 The 95 per cent confidence intervals for these results are available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

2 Life expectancy figures are presented to one decimal place. The rankings in this table reflect differences in the unrounded numbers.1= Highest, 404 = Lowest.

Table 5 continued

Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

United Kingdom

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
Hillingdon	78.1	195	17.7	207	83.2	97	21.3	78
Hounslow	77.4	245	17.4	248	81.6	249	19.7	289
Islington	75.1	376	16.4	353	81.0	303	19.6	299
Kensington and Chelsea	84.3	1	23.1	1	88.9	1	26.3	1
Kingston upon Thames	80.0	48	18.6	81	83.3	85	20.8	142
Lambeth	75.7	351	16.9	316	81.0	304	19.9	274
Lewisham	76.2	327	16.1	373	81.0	308	19.4	332
Merton	79.9	55	18.8	58	83.4	71	21.1	100
Newham	75.8	348	16.9	318	80.4	357	19.5	311
Redbridge	79.0	129	18.5	86	82.6	151	20.8	149
Richmond upon Thames	80.3	31	18.6	79	84.3	16	22.1	16
Southwark	77.2	264	18.4	103	82.4	171	21.7	37
Sutton	79.0	123	18.1	146	82.6	142	20.4	185
Tower Hamlets	75.3	372	16.7	333	80.4	355	18.9	372
Waltham Forest	76.5	303	16.8	327	81.2	292	19.8	283
Wandsworth	77.5	237	17.2	284	81.5	258	20.2	236
Westminster	82.9	2	22.3	2	85.8	2	23.5	2
South East	79.2		18.4		83.0		21.0	
Adur	78.4	177	17.7	197	81.6	248	20.2	239
Arun	78.7	156	18.3	126	82.5	159	21.3	83
Ashford	80.7	16	19.5	15	82.8	131	21.0	115
Aylesbury Vale	80.2	34	18.9	48	82.3	178	20.4	186
Basingstoke and Deane	79.7	70	18.3	122	82.5	155	20.7	154
Bracknell Forest	79.6	76	18.1	157	83.4	68	21.7	34
Brighton and Hove	76.6	298	17.5	234	82.5	165	21.1	108
Canterbury	78.8	143	18.1	162	82.2	185	20.3	197
Cherwell	78.7	153	18.1	147	83.5	62	21.3	76
Chichester	79.0	128	18.4	107	83.0	116	20.9	137
Chiltern	80.1	42	19.3	26	85.0	5	22.2	11
Crawley	80.2	32	20.6	3	83.6	53	21.4	65
Dartford	78.9	135	18.1	150	81.4	273	19.3	345
Dover	78.1	190	17.9	181	81.8	232	20.4	196
East Hampshire	79.4	91	18.4	108	82.4	170	20.7	158
Eastbourne	78.6	163	18.7	69	82.8	129	21.4	62
Eastleigh	79.4	86	18.0	170	83.2	96	21.0	122
Elmbridge	81.3	5	19.4	18	83.4	73	21.4	57
Epsom and Ewell	81.2	8	19.5	17	84.3	15	21.8	28
Fareham	81.4	3	19.5	14	84.1	25	21.5	47
Gosport	78.7	159	17.9	183	81.4	270	20.3	224
Gravesham	78.7	158	18.1	159	82.1	194	20.2	244
Guildford	80.4	27	19.3	27	84.6	8	22.1	14
Hart	81.3	4	19.6	11	85.4	3	22.8	4
Hastings	76.3	319	17.0	306	80.5	340	19.7	293
Havant	79.1	116	18.8	63	82.9	120	21.1	101
Horsham	79.8	61	18.7	64	83.3	81	21.5	46
Isle of Wight	78.8	142	18.4	112	82.9	121	21.3	73
Lewes	80.5	24	19.8	6	84.3	20	22.6	6
Maidstone	78.8	145	18.2	140	82.4	174	20.2	234
Medway	76.8	290	16.7	332	81.2	286	19.5	306
Mid Sussex	80.1	39	18.5	95	83.0	114	20.5	184
Milton Keynes	78.1	202	17.8	194	81.8	235	20.1	254
Mole Valley	80.4	26	19.1	36	84.1	26	21.3	79
New Forest	80.6	18	19.4	20	84.5	10	22.2	12
Oxford	78.0	206	18.3	125	82.8	132	21.3	82
Portsmouth	76.8	287	17.3	257	82.0	211	20.7	156
Reading	77.7	222	18.1	148	82.1	195	20.8	145
Reigate and Banstead	79.4	90	18.2	134	83.0	113	20.3	207
Rother	79.3	100	18.6	85	83.1	101	21.3	69
Runnymede	79.9	50	18.8	62	83.2	89	21.1	107
Rushmoor	79.6	78	18.1	164	82.6	150	20.9	133
Sevenoaks	80.9	11	19.2	33	83.7	51	21.2	95
Shepway	78.2	187	18.1	154	82.5	154	20.8	146
Slough	77.7	229	19.0	45	82.6	147	21.0	112
South Bucks	81.2	6	19.4	21	83.9	34	21.4	58
South Oxfordshire	79.6	73	18.6	80	83.4	70	21.3	74
Southampton	77.6	232	17.6	226	82.1	196	20.6	166
Spelthorne	79.7	68	18.7	72	83.3	87	21.5	51
Surrey Heath	79.9	57	18.9	51	83.6	56	20.8	148
Swale	77.1	270	17.0	300	81.1	299	19.7	295
Tandridge	80.7	14	19.7	7	83.4	76	21.0	120
Test Valley	79.6	77	18.0	172	83.7	50	21.3	84
Thanet	76.8	286	17.3	256	81.5	261	19.8	278

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2 Life expectancy figures are presented to one decimal place. The rankings in this table reflect differences in the unrounded numbers.1= Highest, 404 = Lowest.

Table 5 continued

Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

United Kingdom

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
Tonbridge and Malling	79.9	58	18.5	93	83.8	36	21.3	85
Tunbridge Wells	79.5	84	18.8	57	83.2	100	21.1	102
Vale of White Horse	79.9	51	18.8	59	84.6	7	22.0	19
Waverley	80.8	12	19.2	32	84.3	13	21.8	26
Wealden	80.5	25	19.1	37	83.5	64	21.4	59
West Berkshire	79.7	67	18.7	71	83.1	104	21.2	92
West Oxfordshire	79.4	89	18.5	90	83.7	47	21.4	64
Winchester	80.0	47	19.2	34	83.2	91	21.1	104
Windsor and Maidenhead	79.3	101	18.0	168	82.9	118	20.5	178
Woking	79.1	118	17.9	180	83.4	69	21.0	117
Wokingham	81.1	9	19.5	16	83.8	42	21.2	88
Worthing	78.1	196	17.7	208	81.9	230	20.3	223
Wycombe	80.2	37	19.4	23	84.0	30	22.0	20
South West	79.0		18.4		83.1		21.2	
Bath and North East Somerset	80.0	45	19.0	46	83.5	63	21.3	68
Bournemouth	78.1	201	18.5	94	82.2	183	20.7	157
Bristol, City of	76.9	284	17.0	303	81.7	246	20.2	237
Cheltenham	79.4	92	18.6	77	83.3	83	21.4	56
Christchurch	80.2	38	19.7	9	84.8	6	22.4	9
Cornwall	78.7	160	18.2	143	82.8	125	21.0	119
Cotswold	80.6	21	19.4	25	83.6	59	21.5	50
East Devon	80.6	22	19.2	30	83.6	52	21.6	39
East Dorset	81.2	7	19.7	8	85.1	4	23.0	3
Exeter	78.9	130	17.9	177	83.4	75	21.4	54
Forest of Dean	77.9	209	17.7	203	81.5	267	20.5	177
Gloucester	77.9	210	18.1	158	81.9	222	20.4	189
Mendip	79.4	88	18.8	54	83.2	90	21.4	67
Mid Devon	80.4	30	19.4	19	83.3	79	21.2	96
North Devon	77.7	226	18.3	130	83.1	109	20.8	150
North Dorset	80.8	13	19.4	24	84.3	17	22.3	10
North Somerset	79.3	97	18.8	52	83.2	92	21.0	114
Plymouth	77.2	257	17.5	235	82.0	206	20.5	179
Poole	78.9	132	18.3	123	83.1	103	21.2	91
Purbeck	80.6	17	19.4	22	84.0	29	21.9	24
Sedgemoor	78.3	181	18.1	144	83.1	108	21.2	93
South Gloucestershire	79.8	60	18.5	92	83.6	55	21.3	70
South Hams	79.2	110	18.6	76	83.8	39	21.6	42
South Somerset	79.6	74	18.8	55	83.7	48	21.5	44
Stroud	78.9	136	17.9	184	82.6	149	20.7	155
Swindon	77.7	223	17.2	281	82.1	202	20.1	251
Taunton Deane	78.9	134	18.3	127	82.9	122	20.9	140
Teignbridge	79.9	53	19.0	40	83.6	60	21.8	25
Tewkesbury	79.1	112	19.0	41	83.8	40	21.8	29
Torbay	78.1	197	18.4	115	82.4	169	21.1	98
Torridge	79.1	115	18.5	98	83.2	95	21.3	72
West Devon	79.1	113	18.0	165	84.2	21	21.9	23
West Dorset	79.9	54	19.0	42	83.9	33	21.7	36
West Somerset	79.3	98	19.2	28	84.3	19	22.7	5
Weymouth and Portland	78.1	193	18.5	97	82.2	186	21.1	109
Wiltshire	79.4	95	18.4	113	83.3	82	21.3	81
Wales	77.0		17.2		81.4		20.0	
Local areas within Wales								
Blaenau Gwent	75.3	371	16.4	356	78.8	399	18.4	392
Bridgend	76.0	336	16.6	341	80.2	362	19.3	337
Caerphilly	75.6	357	16.3	363	80.9	313	19.4	321
Cardiff	76.6	301	17.0	310	81.7	240	20.3	205
Carmarthenshire	76.5	306	16.9	312	81.3	283	19.8	281
Ceredigion	80.7	15	19.8	5	84.2	24	22.1	17
Conwy	77.0	281	17.6	220	81.3	284	20.3	208
Denbighshire	77.7	227	17.6	214	81.7	244	20.3	220
Flintshire	77.7	228	17.5	241	81.8	237	19.8	280
Gwynedd	77.3	253	17.5	237	81.9	216	20.3	199
Isle of Anglesey	76.9	285	17.5	236	82.6	146	20.8	152
Merthyr Tydfil	74.9	382	16.2	370	79.6	380	19.1	357
Monmouthshire	78.7	157	18.1	156	83.4	74	21.3	77
Neath Port Talbot	76.3	324	16.7	330	80.4	351	19.5	313
Newport	77.0	274	17.2	273	81.5	265	20.3	202
Pembrokeshire	77.2	263	17.7	209	81.9	225	20.2	245
Powys	79.3	104	18.3	121	82.7	138	21.1	97
Rhondda, Cynon, Taff	75.5	359	16.3	369	80.0	368	18.8	377

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Table 5 continued Life expectancy at birth and at age 65[1] and relative position (rank order[2]) of local areas in the United Kingdom, 2006–08

	Males				Females			
	Life expectancy at birth		Life expectancy at age 65		Life expectancy at birth		Life expectancy at age 65	
	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]	Years	Rank order[2]
Swansea	77.0	277	17.6	223	81.1	298	19.9	264
The Vale of Glamorgan	77.8	219	17.6	217	82.3	177	20.3	217
Torfaen	77.0	279	17.0	305	81.0	306	20.0	256
Wrexham	77.3	252	17.1	288	81.0	309	19.6	303
Scotland	75.0		16.3		79.9		18.9	
Local areas within Scotland								
Aberdeen City	75.4	366	16.3	364	80.4	358	19.0	364
Aberdeenshire	77.5	241	17.6	225	81.1	296	19.5	305
Angus	76.8	291	17.4	245	80.6	329	19.3	335
Argyll & Bute	76.3	325	16.9	311	79.9	372	19.4	320
Clackmannanshire	74.5	387	15.7	395	80.4	346	19.2	350
Dumfries & Galloway	76.4	311	17.1	290	80.5	338	19.4	330
Dundee City	73.7	396	16.9	319	79.7	379	19.4	328
East Ayrshire	74.6	385	15.7	392	78.5	401	18.2	395
East Dunbartonshire	78.0	207	17.7	206	82.5	157	20.2	242
East Lothian	76.6	300	16.7	329	81.3	279	19.4	316
East Renfrewshire	77.4	243	17.4	253	82.0	213	20.3	216
Edinburgh, City of	76.5	309	17.2	279	81.4	274	20.2	238
Eilean Siar	73.5	399	16.3	367	81.4	275	20.1	249
Falkirk	75.1	377	15.9	388	79.6	382	18.0	399
Fife	75.9	345	16.8	324	80.4	353	19.3	339
Glasgow City	70.7	404	13.8	404	77.2	404	17.4	404
Highland	75.9	346	17.0	299	80.8	317	19.4	317
Inverclyde	72.8	402	15.4	401	78.6	400	18.6	384
Midlothian	76.3	318	16.5	348	80.5	341	18.8	376
Moray	76.4	315	16.9	317	80.4	356	19.1	360
North Ayrshire	73.8	394	15.9	391	79.0	392	18.5	388
North Lanarkshire	73.1	401	15.1	403	78.4	402	17.8	401
Orkney Islands	74.4	389	15.9	389	81.4	272	19.4	326
Perth & Kinross	77.5	238	17.6	222	81.5	259	19.9	269
Renfrewshire	73.6	397	15.5	400	78.8	398	17.9	400
Scottish Borders	77.1	268	17.0	308	80.8	322	19.3	340
Shetland Islands	75.0	380	17.9	186	81.5	263	20.4	195
South Ayrshire	75.5	358	17.1	298	80.9	311	19.5	310
South Lanarkshire	74.5	388	15.7	394	79.5	384	18.6	383
Stirling	77.0	278	17.1	292	81.3	281	19.5	309
West Dunbartonshire	72.1	403	15.2	402	78.1	403	17.8	403
West Lothian	76.0	338	16.4	355	79.3	388	18.1	398
Northern Ireland	76.4		17.0		81.3		19.8	
Local areas within Northern Ireland								
Antrim	76.9	282	16.7	328	80.7	325	19.4	324
Ards	77.3	251	17.4	242	82.0	214	19.9	273
Armagh	76.2	328	16.9	314	81.2	289	19.4	327
Ballymena	78.1	199	18.1	145	82.2	181	20.2	241
Ballymoney	77.6	231	17.2	276	82.5	156	21.2	94
Banbridge	78.1	194	18.2	137	82.6	153	20.3	213
Belfast	73.4	400	15.6	398	79.6	383	19.0	363
Carrickfergus	76.5	307	16.4	354	80.3	360	19.2	349
Castlereagh	78.5	173	17.3	260	82.2	191	20.3	201
Coleraine	78.1	192	18.5	89	82.5	166	21.1	105
Cookstown	74.9	381	16.2	372	81.9	221	20.4	192
Craigavon	77.1	271	17.3	266	82.3	179	20.7	159
Derry	74.6	384	16.1	374	80.0	370	18.9	370
Down	78.1	198	17.8	189	80.7	323	19.8	286
Dungannon	75.9	342	16.6	336	81.1	295	19.6	298
Fermanagh	76.1	331	17.3	268	81.7	245	20.2	240
Larne	76.8	292	17.1	297	81.7	241	19.3	338
Limavady	76.4	316	16.6	344	82.4	168	20.2	231
Lisburn	77.2	256	17.4	243	82.0	207	20.1	250
Magherafelt	77.8	216	17.3	267	82.2	189	20.2	230
Moyle	78.5	170	18.7	67	81.1	297	19.2	347
Newry and Mourne	75.9	339	16.4	361	80.6	337	19.6	297
Newtownabbey	77.5	240	17.3	261	81.9	229	20.3	212
North Down	79.0	125	17.7	211	82.1	199	21.0	118
Omagh	76.1	333	17.2	277	81.9	227	20.7	161
Strabane	75.4	368	16.4	352	80.6	333	19.0	366

1 The 95 percent confidence intervals for these results are available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=8841

2 Life expectancy figures are presented to one decimal place. The rankings in this table reflect differences in the unrounded numbers.1= Highest, 404 = Lowest.

Report:

Excess winter mortality in England and Wales, 2008/09 (provisional) and 2007/08 (final)

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Office for National Statistics

Key findings

- There were an estimated 36,700 excess winter deaths in England and Wales in 2008/09. This is an increase of 49 per cent compared with figures for 2007/08.
- The estimate of excess winter deaths in 2008/09 is the highest since 1999/2000.
- In 2008/09 there were 15,300 excess winter deaths in males and 21,400 excess winter deaths in females. The majority of these deaths occurred among those aged 75 and over.

Introduction

This report analyses provisional estimated figures for excess winter mortality (EWM) for the winter period 2008/09, and final figures for the winter period 2007/08 for deaths occurring in England and Wales. Historical trends in EWM are presented for people in England and Wales from 1950/51 to 2008/09. Figures by sex, age, and Government Office Region of England, and Wales are presented for the five-year period 2004/05 to 2008/09, and by cause of death from 2005/06 to 2007/08. Monthly mortality data for deaths occurring in 2007 and 2008 are presented in the Appendices.

England and Wales experience higher levels of mortality in the winter than in the summer. A measure of this increase is provided on an annual basis, in the form of the excess winter mortality (EWM) figure and index (see Box One).

The elderly are more vulnerable than others during the winter and these figures are used to monitor health targets at a national and local level. Policies aimed at tackling EWM, such as winter fuel payments[1] and influenza vaccinations,[2] particularly focus on older people. Although EWM is associated with low temperatures, conditions directly relating to cold, such as hypothermia, are not the main cause of excess winter mortality. A previous article[3] on EWM showed that circulatory and respiratory diseases exhibit marked seasonal fluctuations, with deaths from respiratory illnesses having the largest percentage seasonal increase.

Results

Total excess winter mortality in England and Wales

Figure 1 shows EWM in England and Wales, by year from the winter of 1950/51 to 2008/09. A five-year moving average is also presented to smooth out any short-term fluctuations. This shows that a sharp drop in EWM occurred between 1950 and 1970, with a more gradual decrease since then.

In the four months of winter 2008/09 there were an estimated 36,700 more deaths in England and Wales than in the non-winter period. There were just over 12,000 more excess winter deaths in 2008/09 than in 2007/08, an increase of 49 per cent. The last time EWM figures were higher than this was the winter of 1999/2000.

Box one

Method for calculating excess winter mortality

The current ONS standard method defines the winter period as December to March, and compares the number of deaths that occurred in this winter period with the average number of deaths occurring in the preceding August to November and the following April to July:

EWM = winter deaths – average non-winter deaths

This produces a number of excess winter deaths that is rounded to the nearest 10 for final data and to the nearest 100 for provisional data. The EWM index is calculated so that comparisons can be made between sexes, age groups and regions, and is calculated as the number of excess winter deaths divided by the average non-winter deaths, expressed as a percentage:

EWM Index = (EWM / average non-winter deaths) x 100

The EWM index is presented with 95 per cent confidence intervals in this report.

Figure 1 Excess winter mortality by year and five-year moving average, 1950/51 to 2008/09

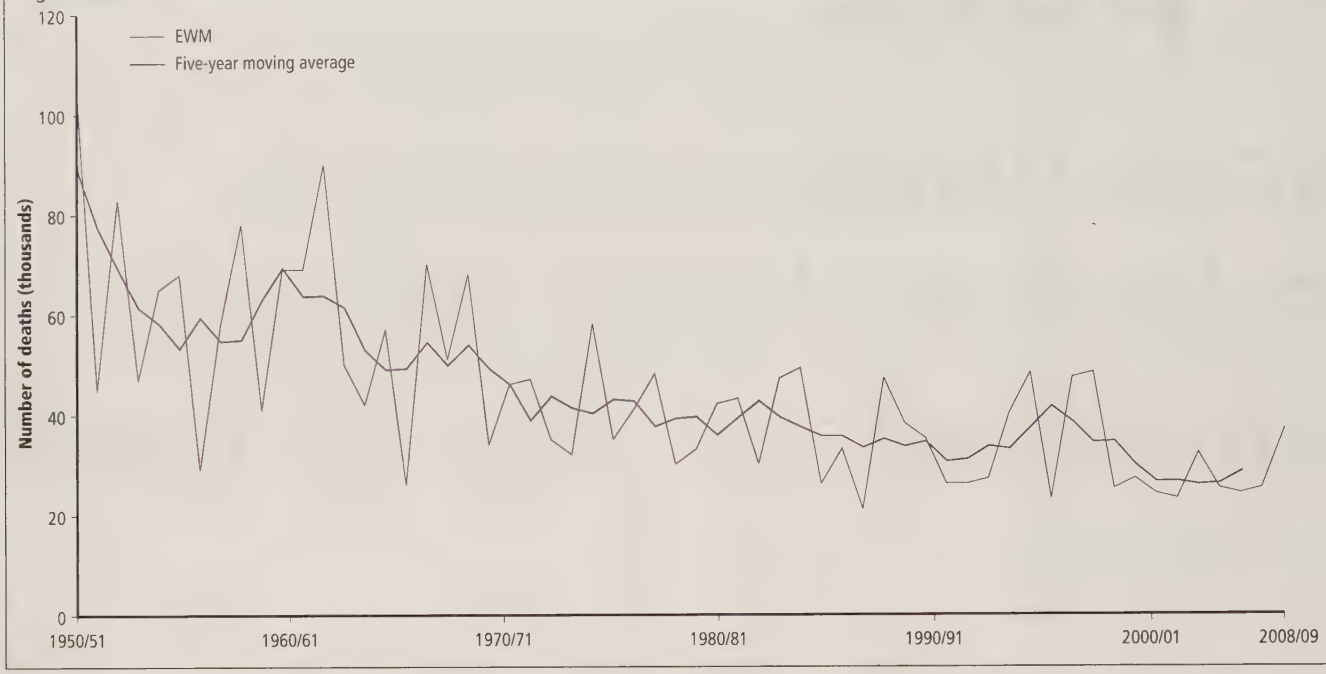
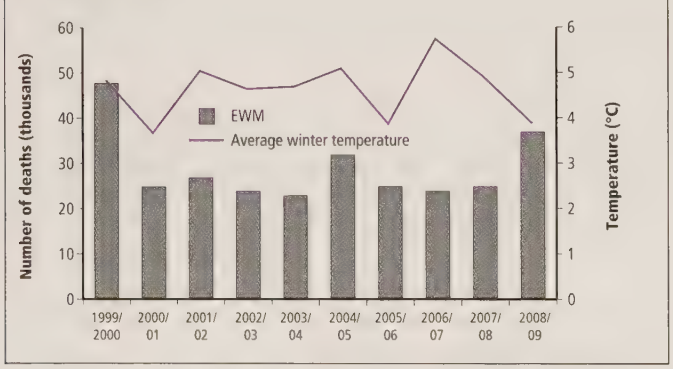


Figure 2 Excess winter mortality and average winter temperature, 1999/2000 to 2008/09



The number of extra deaths occurring in winter varies depending on temperature and the level of disease (particularly influenza) in the population, as well as other factors.[3] Figure 2 shows that the increase in EWM between 2006/07 and 2008/09 corresponded with a decrease in the average temperature across the winter period. However, the relationship between temperature and EWM was less clear in other years.

When monthly mortality data for 2008/09 were compared with the five-year average of deaths between 2003/04 and 2007/08 (Figure 3), deaths were higher in December 2008 to January 2009 than the five-year average. The mean monthly temperatures were generally lower throughout 2008/09 compared with the five-year average temperatures, with the largest difference occurring in January 2009.[4]

Excess winter mortality by sex and age

Figure 4 shows the number of excess winter deaths by sex and age in England and Wales for 2006/07 to 2008/09.

In 2008/09, there were 15,300 and 21,400 excess winter deaths in males and females respectively. The majority of these deaths occurred among those aged 75 and over in both sexes, although proportions varied by sex. Among those aged under 75, there were more excess winter deaths in males than females, with a male:female ratio of 1.29. In those aged 75 and over, there were more excess winter deaths in women than men, with a male:female ratio of 0.61. A greater number, and higher proportion, of the female population are aged 75 and over (9 per cent compared with 6 per cent of males in 2008), which may wholly, or partially, account for the higher number of excess winter deaths in women.

In 2008/09, overall EWM for males was 44 per cent higher than in the winter of 2007/08. The largest increase was in males aged 75 to 84, where the number increased by 59 per cent. For females in 2008/09, overall EWM increased by 52 per cent compared with 2007/08. This increase was reflected across all age groups.

Excess winter mortality for Government Office Regions of England, and Wales

Table 1 presents EWM and the EWM index by age and Government Office Region of England, and Wales. There are substantial year-on-year changes in the rank order of regions for EWM – for example, the North East had the lowest EWM index in the winter of 2008/09 and the highest EWM index for the previous winter of 2007/08. Research[5] examining EWM among the elderly found little evidence for any consistent variation by geographical region within the UK.

Figure 5 shows the EWM index by Government Office Region of England, and Wales, for the winters of 2006/07 to 2008/09. The EWM index was significantly higher in 2008/09 than the previous two winters for all regions except the North East. The South East region had the highest EWM index for 2008/09 at 25.8, but Wales had the greatest percentage point increase between 2007/08 and 2008/09 (11.4 percentage points). The region with the lowest EWM index in 2008/09 was the North East – it was also the region with the smallest percentage point increase between 2007/08 and 2008/09 (1.9 percentage points).

Figure 3 Monthly deaths and mean monthly temperature, August 2008 to July 2009

England and Wales

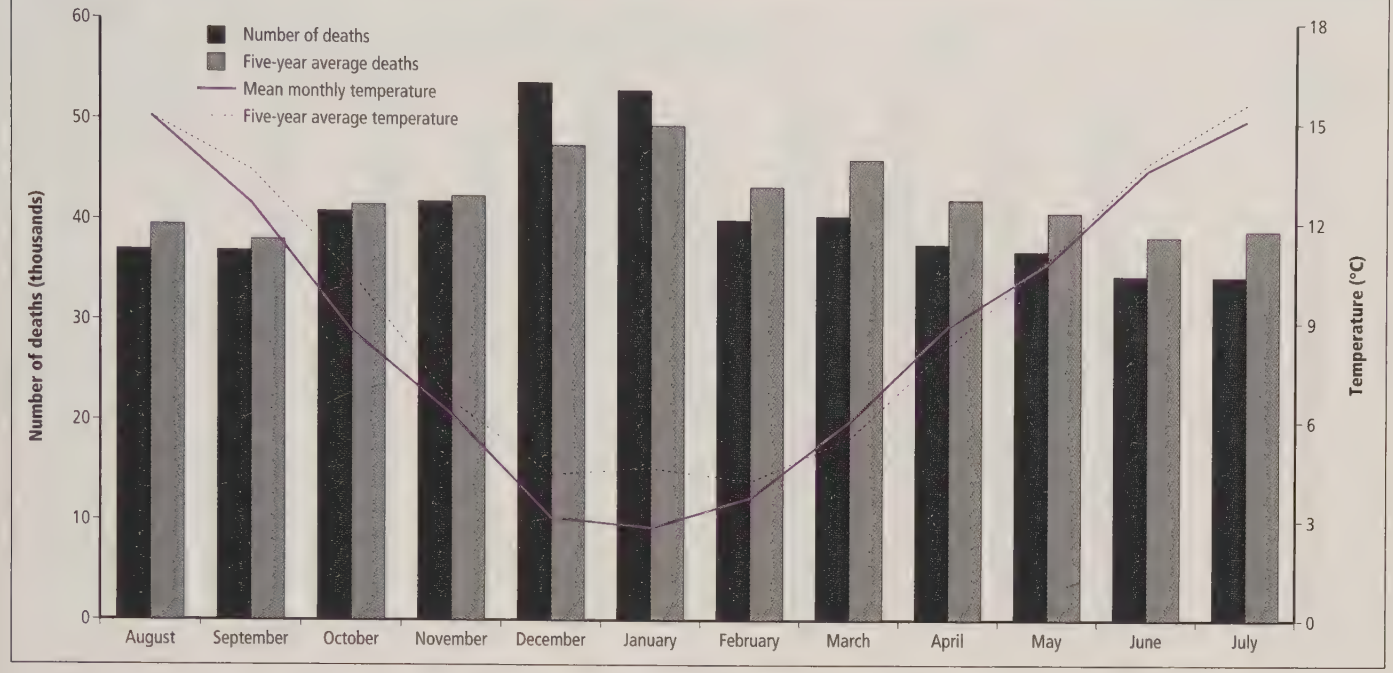


Figure 4 Excess winter mortality by sex and age group, 2006/07 to 2008/09

England and Wales

periods. This means that a greater number of circulatory disease deaths than respiratory disease deaths occurred during the non-winter periods of 2005/06 to 2007/08.

For all of the causes examined except respiratory diseases, both the number of excess winter deaths and the EWM index increased between 2006/07 and 2007/08. The number of excess winter deaths due to respiratory diseases decreased by 6 per cent in 2007/08, compared with 2006/07. Nevertheless, respiratory disease deaths still had the highest EWM index, compared with other causes for all of the winters analysed. In the winter of 2007/08, the EWM index for respiratory diseases was 42 per cent. Deaths from circulatory diseases and cancers showed slight fluctuations over the three winter periods. Injury and poisoning deaths showed the greatest change over this time period, with deaths more than doubling from 2006/07 to 2007/08. However, although deaths from injury and poisoning were significantly higher in 2007/08 compared with 2005/06 and 2006/07, they are in line with figures from 2004/05.

Excess winter mortality by underlying cause of death

Figure 6 shows EWM and the EWM index for circulatory diseases, respiratory diseases, external causes of injury and poisoning, and cancers (all neoplasms) for the winters of 2005/06 to 2007/08. Although cancers account for a quarter of all deaths annually, previous research[3] found that there was no clear seasonal pattern for these deaths, which accounts for the low EWM and EWM index for cancers seen in Figure 6. Injury and poisoning deaths, however, include accidental falls, which can be affected by wintry conditions – for example, icy pavements – and the EWM index was 8.6 per cent in 2007/08, compared with 3.9 and 4.7 per cent in 2006/07 and 2005/06 respectively.

There were slightly more excess winter deaths with an underlying cause of circulatory disease than respiratory disease for the winters of 2005/06 and 2007/08, but a higher number of excess winter respiratory disease deaths in 2006/07 (Figure 6). However, the EWM index is much lower for circulatory diseases than for respiratory diseases for all of the winter

Table 2 shows the number of excess winter deaths and the EWM index by sex and age group for circulatory diseases, respiratory diseases, injury and poisoning, and cancers in England and Wales for the winters of 2005/06 to 2007/08. For circulatory diseases, people aged 85 and over had the highest EWM index in both males and females across the winter periods and it was consistently higher when compared with the 0–64 age group.

For respiratory diseases, people aged 85 and over also had the highest EWM index for males and females for the three winter periods examined. The only exception was for females in 2007/08 where the index was 52 per cent in the 0–64 age group and 49 percent in the 85 and over age group. The link between EWM and age, however, is not as strong as it is for circulatory diseases.

For deaths from injury and poisoning, the EWM index showed a clear sex difference: females have higher EWM than males. This sex difference is most marked in the younger age groups, as a greater

Table 1 Excess winter mortality by age group and usual residence of deceased, 2004/05 to 2008/09

Government Office Regions of England, Wales

		2004/05		2005/06		2006/07		2007/08		2008/09	
		EWM[1]	EWM Index	EWM[1]	EWM Index	EWM[1]	EWM Index	EWM[1]	EWM Index	EWM[2]	EWM Index
England and Wales[3]	0–64	2,460	8.7	1,960	6.9	1,190	4.2	2,370	8.5	3,400	13.1
	65–74	4,000	14.1	2,930	10.7	3,120	11.9	2,930	11.3	3,900	15.4
	75–84	10,810	19.7	8,030	15.3	7,730	15.3	7,450	14.9	11,300	23.5
	85+	14,380	28.3	12,340	23.7	11,700	22.2	11,940	21.7	18,100	32.8
	All ages	31,640	19.5	25,270	15.8	23,740	15.0	24,690	15.6	36,700	23.8
England	0–64	2,320	8.8	1,760	6.7	1,120	4.2	2,320	9.0	3,100	13.1
	65–74	3,700	14.1	2,750	10.8	2,940	12.1	2,810	11.7	3,700	15.4
	75–84	10,150	19.8	7,580	15.4	7,280	15.4	6,890	14.8	10,500	23.2
	85+	13,570	28.5	11,650	23.8	11,050	22.4	11,260	21.8	17,000	32.9
	All ages	29,740	19.6	23,740	15.8	22,380	15.2	23,290	15.7	34,200	23.7
Wales	0–64	140	8.0	200	11.9	100	5.5	70	3.9	300	16.0
	65–74	300	16.2	210	11.6	210	12.4	130	7.6	300	16.5
	75–84	670	18.9	460	13.8	460	14.2	560	17.6	900	28.3
	85+	810	26.3	690	22.3	640	19.5	680	20.1	1,100	32.8
	All ages	1,930	18.8	1,560	15.7	1,400	14.1	1,440	14.3	2,500	25.7
North East	0–64	50	3.3	120	8.1	90	5.4	210	14.1	–	2.8
	65–74	210	11.5	140	8.3	370	24.2	200	13.1	200	14.0
	75–84	480	15.2	350	11.8	540	19.4	430	14.9	700	24.0
	85+	730	31.7	470	19.3	510	20.7	670	26.6	700	28.5
	All ages	1,460	16.6	1,080	12.6	1,510	18.0	1,500	17.9	1,600	19.8
North West	0–64	520	12.1	260	6.0	150	3.5	260	6.1	600	16.8
	65–74	750	17.7	300	7.3	490	12.1	410	10.3	500	13.5
	75–84	1,520	19.9	1,140	15.5	1,070	15.2	910	13.1	1,600	23.3
	85+	1,650	25.8	1,300	19.6	1,710	25.6	1,630	23.3	2,300	33.2
	All ages	4,440	19.7	3,000	13.4	3,430	15.5	3,210	14.5	5,000	23.5
Yorkshire and The Humber	0–64	260	9.1	240	8.7	150	5.3	270	9.4	200	6.8
	65–74	410	14.2	240	8.7	340	12.8	270	9.9	400	15.2
	75–84	1,270	23.6	580	10.9	770	14.9	820	16.1	1,200	24.7
	85+	1,320	27.5	1,010	20.6	1,070	21.0	1,090	20.8	1,700	32.9
	All ages	3,250	20.5	2,070	13.1	2,330	14.7	2,450	15.4	3,500	22.7
East Midlands	0–64	140	5.8	170	7.5	120	5.0	110	4.9	200	10.2
	65–74	340	14.4	240	10.6	270	12.4	180	8.3	400	17.3
	75–84	860	18.9	690	15.4	640	14.9	660	15.7	800	19.6
	85+	1,130	28.0	880	20.6	980	23.1	810	18.0	1,500	34.6
	All ages	2,460	18.6	1,990	14.9	2,010	15.4	1,770	13.4	2,900	22.8
West Midlands	0–64	290	9.7	50	1.7	180	5.9	270	9.2	400	14.0
	65–74	430	14.2	490	17.0	400	14.3	460	16.9	400	16.3
	75–84	1,240	21.7	960	17.5	1,020	19.3	850	16.5	1,300	26.2
	85+	1,630	33.0	1,210	23.6	1,060	20.5	1,210	22.5	1,700	32.1
	All ages	3,590	21.5	2,710	16.3	2,670	16.3	2,790	17.2	3,900	24.5
East of England	0–64	210	8.2	240	9.2	150	5.5	330	12.9	400	18.4
	65–74	420	15.6	350	13.5	260	10.4	240	9.5	300	11.8
	75–84	1,120	19.7	820	15.0	860	16.2	800	15.4	1,200	22.7
	85+	1,540	27.9	1,400	24.1	1,310	22.9	1,380	23.0	1,900	30.4
	All ages	3,290	20.0	2,810	17.0	2,570	15.9	2,760	16.9	3,800	23.3
London	0–64	370	10.5	260	7.4	120	3.5	390	12.0	500	14.9
	65–74	340	11.5	230	8.2	220	8.1	290	11.1	500	20.1
	75–84	1,150	21.5	770	15.1	650	13.5	840	17.9	1,100	24.5
	85+	1,580	31.3	1,300	26.1	1,080	21.8	1,210	23.5	1,700	33.6
	All ages	3,440	20.4	2,560	15.6	2,070	13.0	2,730	17.4	3,800	25.0
South East	0–64	310	8.2	260	6.8	–	0.1	250	6.6	600	15.8
	65–74	430	11.2	570	15.6	250	7.2	360	10.2	500	15.2
	75–84	1,500	18.4	1,470	19.2	1,080	14.8	930	12.7	1,700	24.7
	85+	2,350	27.4	2,380	27.3	1,690	19.2	1,980	21.5	3,200	34.4
	All ages	4,590	18.8	4,680	19.6	3,030	12.9	3,520	14.8	6,000	25.8
South West	0–64	170	7.0	160	6.4	160	6.3	230	9.3	200	10.5
	65–74	380	15.0	180	7.1	330	13.8	390	17.1	400	16.3
	75–84	1,010	17.8	810	14.9	650	12.4	650	12.6	1,000	18.9
	85+	1,650	27.0	1,700	28.3	1,640	26.2	1,290	19.4	2,200	33.3
	All ages	3,220	19.2	2,840	17.3	2,780	16.9	2,560	15.5	3,800	23.3

1 Rounded to the nearest 10.

2 Provisional, rounded to the nearest 100.

3 England and Wales data include non-residents who died in England or Wales. Data for England and Wales separately excludes deaths of non-residents.

Figure 5 Excess winter mortality by Government Office Regions of England, and Wales, 2006/07 to 2008/09

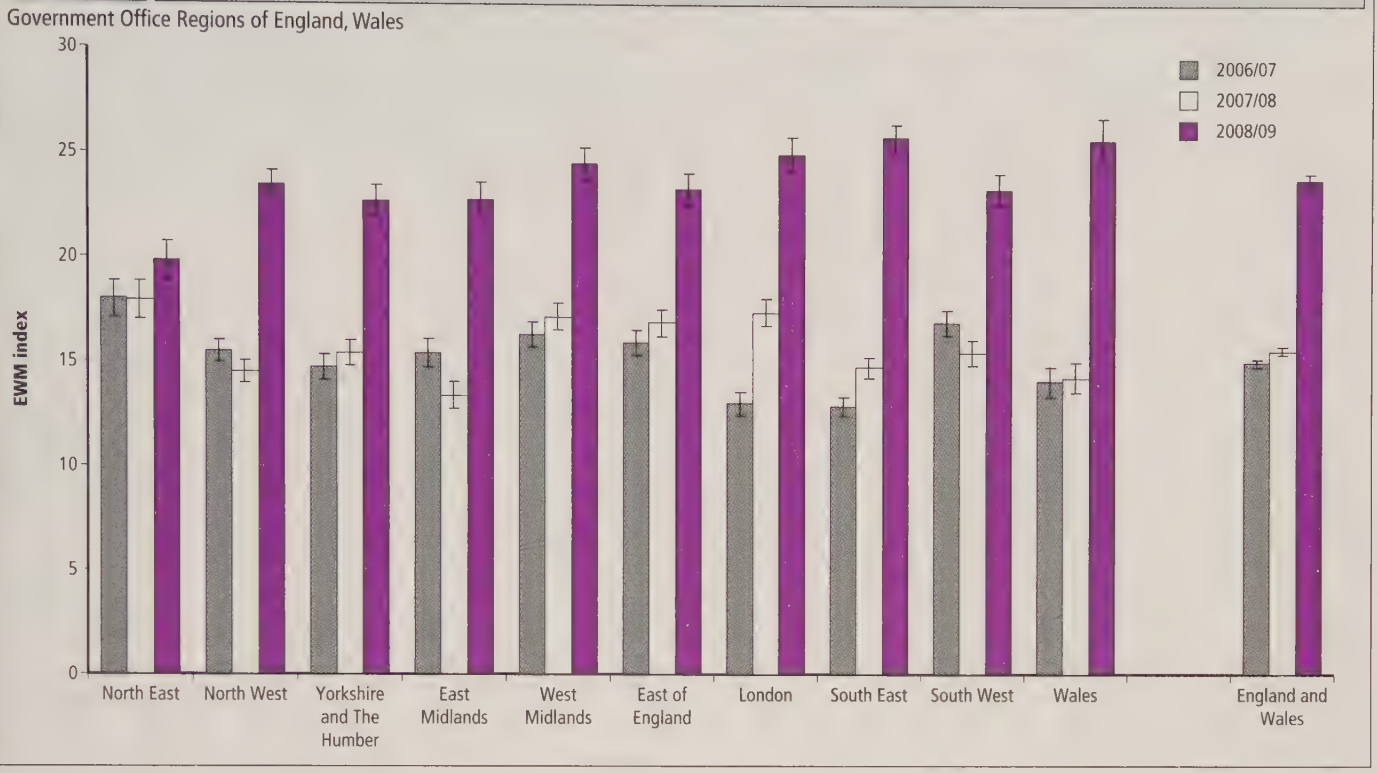
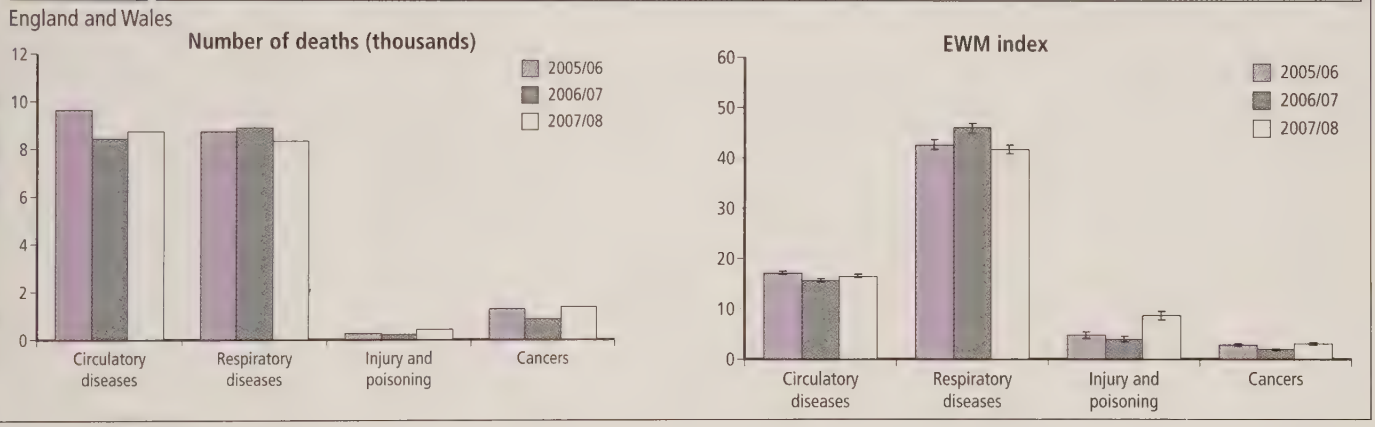


Figure 6 Excess winter mortality by underlying cause of death, 2005/06 to 2007/08



number of younger men aged 0 to 64 died from injury or poisoning in the summer months, compared with the winter months, but this pattern was reversed in females.

Methods

Excess winter mortality (EWM) is calculated by comparing the number of deaths occurring in winter with the number occurring in a non-winter period. Previous analysis compared methods of calculating EWM using different winter and non-winter periods.[3] The method for calculating EWM used in this report can be found in Box One.

Mortality data are collected from death registration. Most deaths (almost 95 per cent) are registered within one month of the date of occurrence, although violent or unexpected deaths, which need further investigation from a coroner, can take much longer. So that timely EWM figures can be produced, ONS generates a special extract of mortality data in September for deaths that were registered by this month, but which occurred up to the end of July. These figures are then adjusted using the number of deaths from the previous year's extract, compared with the final number of deaths. This produces a provisional estimated number of deaths for January to July in the current year so that EWM can be calculated for the previous winter. As these figures are provisional they are rounded to the nearest 100 and are not produced for areas smaller than Government Office Region of England.

Cause of death figures have been produced using final figures (2005/06–2007/08). Appendix Tables A1 and A2 at the end of this report contain mortality data by age group, sex, area of usual residence (Government Office Region of England, and Wales) and month of occurrence from January to December 2007. Appendix Tables A3 and A4 present equivalent data for January to December 2008.

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Table 2

Excess winter mortality by sex, age group and underlying cause of death, 2005/06 to 2007/08

England and Wales

		2005/06		2006/07		2007/08	
		EWM[1]	EWM Index	EWM[1]	EWM Index	EWM[1]	EWM Index
Males							
Circulatory diseases	0–64	620	13.6	260	5.6	520	11.9
(ICD–10 I00–I99)	65–74	720	12.9	710	13.7	670	13.6
	75–84	1,750	17.4	1,220	12.7	1,400	15.1
	85+	1,500	22.3	1,490	21.8	1,450	20.6
	All ages	4,600	17.0	3,670	14.0	4,040	15.8
Respiratory diseases	0–64	340	36.5	280	30.0	380	41.6
(ICD–10 J00–J99)	65–74	570	34.9	540	35.3	470	29.2
	75–84	1,180	31.6	1,250	36.4	1,180	34.1
	85+	1,360	43.0	1,370	42.8	1,420	42.1
	All ages	3,460	36.4	3,440	37.8	3,460	36.9
Injury and poisoning	0–64	–110	–5.0	–130	–5.7	–10	–0.5
(ICD–10 V01–Y89)	65–74	10	3.4	–	0.4	30	9.8
	75–84	40	10.5	80	20.1	80	18.6
	85+	80	23.8	50	13.2	60	14.9
	All ages	20	0.5	–	0.1	150	4.6
Cancers	0–64	160	2.9	–130	–2.4	170	3.1
(ICD–10 C00–D48)	65–74	70	1.0	60	1.0	290	4.5
	75–84	190	2.3	250	3.1	120	1.5
	85+	140	3.9	160	4.4	330	8.4
	All ages	550	2.3	350	1.4	910	3.8
All causes	0–64	1,110	6.5	590	3.4	1,470	8.7
	65–74	1,540	9.6	1,580	10.3	1,710	11.2
	75–84	3,960	15.0	3,470	13.6	3,390	13.4
	85+	4,000	23.3	3,760	21.0	4,030	21.5
	All ages	10,620	13.8	9,400	12.3	10,590	13.9
Females							
Circulatory diseases	0–64	160	8.8	170	9.9	260	15.3
(ICD–10 I00–I99)	65–74	460	14.3	470	16.0	390	14.3
	75–84	1,540	15.5	1,420	15.6	1,500	17.1
	85+	2,890	20.2	2,700	19.4	2,560	17.9
	All ages	5,040	17.3	4,750	17.2	4,700	17.1
Respiratory diseases	0–64	320	49.3	260	40.6	340	52.0
(ICD–10 J00–J99)	65–74	470	39.1	610	54.6	500	44.3
	75–84	1,480	40.9	1,580	47.3	1,310	39.5
	85+	2,990	54.4	3,020	57.9	2,750	49.2
	All ages	5,260	48.0	5,470	53.1	4,910	45.8
Injury and poisoning	0–64	40	5.1	10	1.5	60	8.7
(ICD–10 V01–Y89)	65–74	20	10.7	10	4.5	20	14.1
	75–84	40	8.0	80	19.0	50	12.2
	85+	150	19.4	110	14.5	170	21.5
	All ages	230	11.4	210	10.4	300	14.8
Cancers	0–64	40	0.7	–100	–1.9	–20	–0.4
(ICD–10 C00–D48)	65–74	290	6.0	160	3.3	80	1.6
	75–84	190	2.6	290	4.1	270	3.8
	85+	220	4.9	160	3.4	160	3.3
	All ages	730	3.4	510	2.3	490	2.2
All causes	0–64	840	7.6	610	5.5	900	8.2
	65–74	1,390	12.4	1,540	14.2	1,230	11.4
	75–84	4,080	15.5	4,250	17.0	4,060	16.5
	85+	8,340	24.0	7,940	22.8	7,920	21.8
	All ages	14,640	17.6	14,340	17.6	14,100	17.1

1 Rounded to the nearest 10.

Appendix

Table A1 Number of deaths by month, age group and area of usual residence, males, 2007

Government Office Regions of England, Wales

		January	February	March	April	May	June	July	August	September	October	November	December	Total[1]
England, Wales and elsewhere	0–64	4,735	4,393	4,511	4,480	4,516	4,230	4,299	4,110	4,080	4,324	4,179	4,617	52,479
	65–74	4,443	3,974	4,206	3,957	3,974	3,762	3,786	3,735	3,615	3,855	4,057	4,386	47,750
	75–84	7,444	7,241	7,175	6,620	6,537	6,118	6,241	6,402	5,963	6,533	6,654	7,499	80,428
	85+	5,586	5,508	5,367	4,765	4,641	4,373	4,465	4,387	4,240	4,724	5,022	5,884	58,962
	All ages	22,208	21,116	21,259	19,822	19,668	18,483	18,791	18,634	17,898	19,436	19,912	22,386	239,619
North East	0–64	256	237	261	246	253	216	258	214	212	247	223	253	2,876
	65–74	280	231	271	220	217	225	215	204	203	192	231	255	2,744
	75–84	430	413	382	352	349	344	342	355	379	372	364	398	4,480
	85+	252	234	261	223	205	188	195	203	207	202	226	265	2,661
	All ages	1,218	1,115	1,175	1,041	1,024	973	1,010	976	1,001	1,013	1,044	1,171	12,761
North West	0–64	711	683	657	689	711	618	623	621	625	620	634	713	7,905
	65–74	703	572	652	594	606	612	619	566	561	600	540	645	7,270
	75–84	1,062	989	963	902	884	838	876	873	830	887	949	958	11,011
	85+	717	720	658	563	551	540	523	504	512	569	624	742	7,223
	All ages	3,193	2,964	2,930	2,748	2,752	2,608	2,641	2,564	2,528	2,676	2,747	3,058	33,409
Yorkshire and The Humber	0–64	511	442	452	463	449	426	416	433	422	429	438	508	5,389
	65–74	458	414	434	435	379	337	383	377	331	403	427	426	4,804
	75–84	714	712	700	655	662	633	607	665	563	644	625	770	7,950
	85+	515	508	492	461	415	412	391	403	379	427	452	516	5,371
	All ages	2,198	2,076	2,078	2,014	1,905	1,808	1,797	1,878	1,695	1,903	1,942	2,220	23,514
East Midlands	0–64	372	376	360	371	364	326	315	327	345	361	363	360	4,240
	65–74	347	348	354	341	339	331	318	323	295	317	326	360	3,999
	75–84	601	635	641	559	596	507	500	536	500	515	599	639	6,828
	85+	469	438	468	389	394	370	371	374	354	394	435	511	4,967
	All ages	1,789	1,797	1,823	1,660	1,693	1,534	1,504	1,560	1,494	1,587	1,723	1,870	20,034
West Midlands	0–64	519	474	504	490	472	481	424	433	437	481	450	509	5,674
	65–74	498	437	461	418	438	398	407	389	414	395	426	508	5,189
	75–84	799	807	803	673	699	673	673	648	599	670	703	805	8,552
	85+	535	523	515	434	478	451	420	443	428	480	456	578	5,741
	All ages	2,351	2,241	2,283	2,015	2,087	2,003	1,924	1,913	1,878	2,026	2,035	2,400	25,156
East of England	0–64	451	388	425	407	417	391	442	392	390	387	387	430	4,910
	65–74	448	374	388	374	398	355	341	344	355	372	419	423	4,591
	75–84	814	777	750	716	659	624	653	677	632	723	658	809	8,492
	85+	629	601	569	571	519	457	503	485	480	493	552	604	6,463
	All ages	2,342	2,140	2,132	2,068	1,993	1,827	1,939	1,898	1,857	1,975	2,016	2,266	24,456
London	0–64	568	548	553	506	542	561	532	501	483	462	489	556	6,301
	65–74	451	393	422	422	405	383	393	386	414	360	448	455	4,932
	75–84	710	702	641	643	604	584	640	597	590	601	666	695	7,673
	85+	541	477	529	472	462	426	440	399	382	451	504	580	5,663
	All ages	2,270	2,120	2,145	2,043	2,013	1,954	2,005	1,883	1,869	1,874	2,107	2,286	24,569
South East	0–64	632	544	588	580	641	530	592	546	519	647	531	566	6,916
	65–74	580	509	550	515	532	509	512	506	506	542	575	645	6,481
	75–84	1,063	998	1,056	964	943	853	899	941	885	948	1,012	1,098	11,661
	85+	936	942	887	754	761	719	756	723	708	822	881	1,033	9,922
	All ages	3,211	2,993	3,081	2,813	2,877	2,611	2,759	2,716	2,618	2,959	2,999	3,342	34,980
South West	0–64	411	386	408	400	374	383	393	351	356	373	350	389	4,574
	65–74	401	417	391	379	363	347	346	345	300	360	356	385	4,390
	75–84	775	723	785	712	667	655	662	655	613	750	650	781	8,428
	85+	661	734	671	574	564	551	570	568	527	583	618	722	7,343
	All ages	2,248	2,260	2,255	2,065	1,968	1,936	1,971	1,919	1,796	2,066	1,974	2,277	24,735
Wales	0–64	278	281	261	298	269	261	271	256	261	274	287	304	3,303
	65–74	262	268	273	247	281	247	232	274	227	299	297	275	3,182
	75–84	468	480	446	432	467	399	375	441	366	406	424	533	5,237
	85+	325	327	314	319	290	254	291	281	259	298	272	330	3,560
	All ages	1,333	1,356	1,294	1,296	1,307	1,161	1,169	1,252	1,113	1,277	1,280	1,442	15,282
England	0–64	4,431	4,078	4,208	4,152	4,223	3,932	3,995	3,818	3,789	4,007	3,865	4,284	48,785
	65–74	4,166	3,695	3,923	3,698	3,677	3,497	3,534	3,440	3,379	3,541	3,748	4,102	44,400
	75–84	6,968	6,756	6,721	6,176	6,063	5,711	5,852	5,947	5,591	6,110	6,226	6,953	75,075
	85+	5,255	5,177	5,050	4,441	4,349	4,114	4,169	4,102	3,977	4,421	4,748	5,551	55,354
	All ages	20,820	19,706	19,902	18,467	18,312	17,254	17,550	17,307	16,736	18,079	18,587	20,890	223,614
England and Wales	0–64	4,709	4,359	4,469	4,450	4,492	4,193	4,266	4,074	4,050	4,281	4,152	4,588	52,088
	65–74	4,428	3,963	4,196	3,945	3,958	3,744	3,766	3,714	3,606	3,840	4,045	4,377	47,582
	75–84	7,436	7,236	7,167	6,608	6,530	6,110	6,227	6,388	5,957	6,516	6,650	7,486	80,312
	85+	5,580	5,504	5,364	4,760	4,639	4,368	4,460	4,383	4,236	4,719	5,020	5,881	58,914
	All ages	22,153	21,062	21,196	19,763	19,619	18,415	18,719	18,559	17,849	19,356	19,867	22,332	238,896
elsewhere	0–64	26	34	42	30	24	37	33	36	30	43	27	29	391
	65–74	15	11	10	12	16	18	20	21	9	15	12	9	168
	75–84	8	5	8	12	7	8	14	14	6	17	4	13	116
	85+	6	4	3	5	2	5	5	4	4	5	2	3	48
	All ages	55	54	63	59	49	68	72	75	49	80	45	54	723

1 Deaths where the month of death is not known and/or not recorded on the death certificate are included in the total number of deaths, therefore the monthly deaths may not sum to the total.

Table A2 Number of deaths by month, age group and area of usual residence, females, 2007

Government Office Regions of England, Wales

		January	February	March	April	May	June	July	August	September	October	November	December	Total[1]
England, Wales and elsewhere	0–64	3,066	2,795	2,901	2,853	2,873	2,696	2,692	2,683	2,627	2,770	2,835	3,038	33,830
	65–74	3,251	3,005	3,054	2,804	2,751	2,599	2,523	2,543	2,579	2,770	2,823	3,099	33,801
	75–84	7,833	7,196	7,163	6,609	6,201	5,973	6,116	5,965	5,858	6,373	6,609	7,490	79,387
	85+	11,213	10,918	10,472	9,440	9,059	8,576	8,607	8,563	8,341	9,331	9,733	11,594	115,847
	All ages	25,363	23,914	23,590	21,706	20,884	19,844	19,938	19,754	19,405	21,244	22,000	25,221	262,865
North East	0–64	173	167	166	163	158	135	140	138	125	163	145	165	1,838
	65–74	221	185	213	161	174	172	154	152	158	152	160	197	2,099
	75–84	434	394	433	369	363	340	341	359	352	379	388	434	4,586
	85+	541	468	493	444	399	379	440	397	370	444	472	533	5,380
	All ages	1,369	1,214	1,305	1,137	1,094	1,026	1,075	1,046	1,005	1,138	1,165	1,329	13,903
North West	0–64	471	383	440	412	414	371	441	400	416	413	423	453	5,037
	65–74	507	508	504	445	430	447	383	363	363	451	473	439	5,313
	75–84	1,111	1,030	1,046	970	899	855	916	853	856	923	935	1,028	11,422
	85+	1,475	1,468	1,408	1,263	1,155	1,130	1,084	1,073	1,138	1,239	1,277	1,511	15,221
	All ages	3,564	3,389	3,398	3,090	2,898	2,803	2,824	2,689	2,773	3,026	3,108	3,431	36,993
Yorkshire and The Humber	0–64	299	321	281	314	287	269	260	279	269	271	313	350	3,514
	65–74	361	297	297	290	296	274	287	268	301	288	288	329	3,576
	75–84	827	785	737	708	668	624	584	614	620	662	674	820	8,323
	85+	1,097	1,063	1,012	941	868	817	874	856	836	914	935	1,183	11,396
	All ages	2,584	2,466	2,327	2,253	2,119	1,984	2,005	2,017	2,026	2,135	2,210	2,682	26,809
East Midlands	0–64	280	242	249	231	243	215	252	214	213	236	243	258	2,876
	65–74	272	242	243	238	234	181	196	232	209	220	228	231	2,726
	75–84	635	632	557	534	483	496	488	486	505	553	511	641	6,521
	85+	880	904	837	664	744	688	689	691	676	758	761	907	9,199
	All ages	2,067	2,020	1,886	1,667	1,704	1,580	1,625	1,623	1,603	1,767	1,743	2,037	21,322
West Midlands	0–64	297	306	311	294	305	288	244	267	295	285	292	307	3,491
	65–74	346	317	334	290	282	255	271	236	270	292	286	359	3,538
	75–84	843	796	744	701	637	671	670	612	583	650	691	766	8,364
	85+	1,054	1,108	1,071	967	880	845	804	888	770	885	934	1,193	11,399
	All ages	2,540	2,527	2,460	2,252	2,104	2,059	1,989	2,003	1,918	2,112	2,203	2,625	26,792
East of England	0–64	299	260	290	270	272	272	242	229	230	248	271	279	3,162
	65–74	282	280	280	266	286	248	247	280	239	270	270	304	3,252
	75–84	831	705	731	632	655	583	627	644	625	619	679	813	8,145
	85+	1,204	1,185	1,115	1,007	978	936	929	887	889	1,051	1,058	1,270	12,509
	All ages	2,616	2,430	2,416	2,175	2,191	2,039	2,045	2,040	1,983	2,188	2,278	2,666	27,068
London	0–64	346	300	350	326	326	335	301	331	320	309	307	339	3,890
	65–74	326	283	306	298	268	251	238	242	275	276	301	320	3,384
	75–84	776	649	668	607	556	569	575	544	547	594	618	706	7,409
	85+	1,054	969	966	854	907	783	799	789	738	836	917	1,086	10,698
	All ages	2,502	2,201	2,290	2,085	2,057	1,938	1,913	1,906	1,880	2,015	2,143	2,451	25,381
South East	0–64	396	378	374	393	422	387	387	385	366	424	376	439	4,727
	65–74	431	384	372	364	356	360	334	372	326	413	390	424	4,526
	75–84	1,098	1,028	1,006	966	932	828	917	862	814	890	994	1,077	11,412
	85+	1,781	1,780	1,697	1,581	1,521	1,482	1,444	1,452	1,410	1,521	1,631	1,952	19,252
	All ages	3,706	3,570	3,449	3,304	3,231	3,057	3,082	3,071	2,916	3,248	3,391	3,892	39,917
South West	0–64	285	245	258	255	246	241	218	247	229	250	274	265	3,013
	65–74	281	273	296	236	210	220	227	228	236	222	237	276	2,942
	75–84	765	702	773	683	626	601	614	632	575	697	656	735	8,059
	85+	1,388	1,303	1,262	1,121	1,038	1,002	993	1,009	1,000	1,117	1,154	1,273	13,660
	All ages	2,719	2,523	2,589	2,295	2,120	2,064	2,052	2,116	2,040	2,286	2,321	2,549	27,674
Wales	0–64	208	182	173	182	185	164	188	172	146	160	180	168	2,108
	65–74	218	223	204	202	204	185	172	157	190	180	184	209	2,328
	75–84	502	469	464	425	373	399	374	355	372	395	457	463	5,048
	85+	730	664	609	592	567	511	549	517	509	565	591	678	7,082
	All ages	1,658	1,538	1,450	1,401	1,329	1,259	1,283	1,201	1,217	1,300	1,412	1,518	16,566
England	0–64	2,846	2,602	2,719	2,658	2,673	2,513	2,485	2,490	2,463	2,599	2,644	2,855	31,548
	65–74	3,027	2,769	2,845	2,588	2,536	2,408	2,337	2,373	2,377	2,584	2,633	2,879	31,356
	75–84	7,320	6,721	6,695	6,170	5,819	5,567	5,732	5,606	5,477	5,967	6,146	7,020	74,241
	85+	10,474	10,248	9,861	8,842	8,490	8,062	8,056	8,042	7,827	8,765	9,139	10,908	108,714
	All ages	23,667	22,340	22,120	20,258	19,518	18,550	18,610	18,511	18,144	19,915	20,562	23,662	245,859
England and Wales	0–64	3,054	2,784	2,892	2,840	2,858	2,677	2,673	2,662	2,609	2,759	2,824	3,023	33,656
	65–74	3,245	2,992	3,049	2,790	2,740	2,593	2,509	2,530	2,567	2,764	2,817	3,088	33,684
	75–84	7,822	7,190	7,159	6,595	6,192	5,966	6,106	5,961	5,849	6,362	6,603	7,483	79,289
	85+	11,204	10,912	10,470	9,434	9,057	8,573	8,605	8,559	8,336	9,330	9,730	11,586	115,796
	All ages	25,325	23,878	23,570	21,659	20,847	19,809	19,893	19,712	19,361	21,215	21,974	25,180	262,425
elsewhere	0–64	12	11	9	13	15	19	19	21	18	11	11	15	174
	65–74	6	13	5	14	11	6	14	13	12	6	6	11	117
	75–84	11	6	4	14	9	7	10	4	9	11	6	7	98
	85+	9	6	2	6	2	3	2	4	5	1	3	8	51
	All ages	38	36	20	47	37	35	45	42	44	29	26	41	440

1 Deaths where the month of death is not known and/or not recorded on the death certificate are included in the total number of deaths, therefore the monthly deaths may not sum to the total.

Table A3 Number of deaths by month, age group and area of usual residence, males, 2008

Government Office Regions of England, Wales

		January	February	March	April	May	June	July	August	September	October	November	December	Total[1]
England, Wales and elsewhere	0–64	4,930	4,252	4,529	4,341	4,403	4,011	4,269	4,016	4,001	4,254	3,975	4,799	51,780
	65–74	4,469	3,957	4,150	3,963	3,922	3,662	3,700	3,556	3,621	3,847	4,101	4,690	47,638
	75–84	7,455	6,721	7,069	6,795	6,298	5,963	6,100	5,848	5,861	6,616	6,599	8,326	79,651
	85+	6,103	5,159	5,610	5,413	4,706	4,406	4,560	4,332	4,373	4,955	5,306	6,921	61,844
	All ages	22,957	20,089	21,358	20,512	19,329	18,042	18,629	17,752	17,856	19,672	19,981	24,736	240,913
North East	0–64	290	227	237	233	242	226	223	209	243	242	223	238	2,833
	65–74	268	227	221	227	253	232	217	202	245	209	249	298	2,848
	75–84	418	371	412	363	352	326	339	320	353	371	381	443	4,449
	85+	311	224	242	255	206	179	217	182	188	219	257	307	2,787
	All ages	1,287	1,049	1,112	1,078	1,053	963	996	913	1,029	1,041	1,110	1,286	12,917
North West	0–64	741	639	652	705	638	619	667	630	574	642	617	728	7,852
	65–74	630	611	644	590	600	578	572	518	564	576	646	634	7,163
	75–84	1,094	880	917	866	889	766	849	813	779	904	896	1,133	10,786
	85+	721	597	671	663	551	496	546	492	474	579	637	872	7,299
	All ages	3,186	2,727	2,884	2,824	2,678	2,459	2,634	2,453	2,391	2,701	2,796	3,367	33,100
Yorkshire and The Humber	0–64	471	444	500	456	472	434	446	395	421	441	416	509	5,405
	65–74	473	418	436	400	412	405	376	355	348	382	413	479	4,897
	75–84	781	689	695	711	662	620	594	607	582	647	665	822	8,075
	85+	544	475	511	471	438	452	409	369	405	462	487	637	5,660
	All ages	2,269	2,026	2,142	2,038	1,984	1,911	1,825	1,726	1,756	1,932	1,981	2,447	24,037
East Midlands	0–64	385	335	335	365	350	290	375	349	341	368	289	405	4,187
	65–74	378	312	356	315	355	302	315	272	299	364	332	454	4,054
	75–84	659	567	617	610	544	554	482	511	539	584	573	741	6,981
	85+	470	427	474	469	427	342	384	359	323	387	445	551	5,058
	All ages	1,892	1,641	1,782	1,759	1,676	1,488	1,556	1,491	1,502	1,703	1,639	2,151	20,280
West Midlands	0–64	528	434	482	475	471	412	469	412	406	456	415	509	5,469
	65–74	503	436	428	430	403	405	407	397	389	434	433	484	5,149
	75–84	754	721	738	703	628	610	659	624	612	724	636	929	8,338
	85+	592	527	532	497	453	448	450	459	393	498	527	664	6,040
	All ages	2,377	2,118	2,180	2,105	1,955	1,875	1,985	1,892	1,800	2,112	2,011	2,586	24,996
East of England	0–64	476	407	441	401	405	367	342	339	366	377	361	439	4,721
	65–74	419	412	387	415	362	333	347	347	371	358	376	440	4,567
	75–84	751	748	749	748	673	667	636	568	646	724	670	875	8,455
	85+	663	620	672	590	539	524	511	480	542	599	594	759	7,093
	All ages	2,309	2,187	2,249	2,154	1,979	1,891	1,836	1,734	1,925	2,058	2,001	2,513	24,836
London	0–64	584	559	569	518	543	484	515	483	474	488	494	588	6,299
	65–74	422	397	436	385	377	352	382	344	339	360	417	479	4,690
	75–84	730	661	666	643	569	539	567	508	510	585	663	777	7,418
	85+	601	532	541	570	449	412	430	397	406	506	541	641	6,026
	All ages	2,337	2,149	2,212	2,116	1,938	1,787	1,894	1,732	1,729	1,939	2,115	2,485	24,433
South East	0–64	690	571	612	576	574	547	539	558	546	580	534	659	6,986
	65–74	657	481	521	552	502	471	474	503	429	517	575	667	6,349
	75–84	1,016	1,004	1,024	1,008	923	862	889	880	818	935	916	1,236	11,511
	85+	1,087	811	899	916	782	740	772	782	776	825	868	1,252	10,510
	All ages	3,450	2,867	3,056	3,052	2,781	2,620	2,674	2,723	2,569	2,857	2,893	3,814	35,356
South West	0–64	434	365	413	337	391	378	377	343	354	356	350	419	4,517
	65–74	436	360	422	373	350	345	348	356	376	382	367	438	4,553
	75–84	776	650	747	699	652	633	655	631	662	697	715	823	8,340
	85+	759	631	702	660	571	551	552	530	601	565	640	839	7,601
	All ages	2,405	2,006	2,284	2,069	1,964	1,907	1,932	1,860	1,993	2,000	2,072	2,519	25,011
Wales	0–64	298	236	255	245	285	214	283	246	238	263	244	278	3,085
	65–74	272	290	289	264	297	223	246	251	244	254	280	300	3,210
	75–84	461	421	498	438	398	374	417	376	351	430	475	541	5,180
	85+	350	312	362	320	286	257	283	279	259	311	307	397	3,723
	All ages	1,381	1,259	1,404	1,267	1,266	1,068	1,229	1,152	1,092	1,258	1,306	1,516	15,198
England	0–64	4,599	3,981	4,241	4,066	4,086	3,757	3,953	3,718	3,725	3,950	3,699	4,494	48,269
	65–74	4,186	3,654	3,851	3,687	3,614	3,423	3,438	3,294	3,360	3,582	3,808	4,373	44,270
	75–84	6,979	6,291	6,565	6,351	5,892	5,577	5,670	5,462	5,501	6,171	6,115	7,779	74,353
	85+	5,748	4,844	5,244	5,091	4,416	4,144	4,271	4,050	4,108	4,640	4,996	6,522	58,074
	All ages	21,512	18,770	19,901	19,195	18,008	16,901	17,332	16,524	16,694	18,343	18,618	23,168	224,966
England and Wales	0–64	4,897	4,217	4,496	4,311	4,371	3,971	4,236	3,964	3,963	4,213	3,943	4,772	51,354
	65–74	4,458	3,944	4,140	3,951	3,911	3,646	3,684	3,545	3,604	3,836	4,088	4,673	47,480
	75–84	7,440	6,712	7,063	6,789	6,290	5,951	6,087	5,838	5,852	6,601	6,590	8,320	79,533
	85+	6,098	5,156	5,606	5,411	4,702	4,401	4,554	4,329	4,367	4,951	5,303	6,919	61,797
	All ages	22,893	20,029	21,305	20,462	19,274	17,969	18,561	17,676	17,786	19,601	19,924	24,684	240,164
elsewhere	0–64	33	35	33	30	32	40	33	52	38	41	32	27	426
	65–74	11	13	10	12	11	16	16	11	17	11	13	17	158
	75–84	15	9	6	6	8	12	13	10	9	15	9	6	118
	85+	5	3	4	2	4	5	6	3	6	4	3	2	47
	All ages	64	60	53	50	55	73	68	76	70	71	57	52	749

1 Deaths where the month of death is not known and/or not recorded on the death certificate are included in the total number of deaths, therefore the monthly deaths may not sum to the total.

Table A4 **Number of deaths by month, age group and area of usual residence, females, 2008**

Government Office Regions of England, Wales

		January	February	March	April	May	June	July	August	September	October	November	December	Total[1]
England, Wales and elsewhere	0–64	3,060	2,800	2,945	2,864	2,812	2,562	2,732	2,664	2,653	2,876	2,757	3,216	33,941
	65–74	3,196	2,716	2,933	2,809	2,735	2,547	2,632	2,539	2,515	2,803	2,771	3,601	33,797
	75–84	7,616	6,581	6,935	6,763	6,032	5,680	5,848	5,607	5,506	6,125	6,452	8,341	77,486
	85+	12,038	10,002	10,580	10,299	9,406	8,417	8,505	8,426	8,429	9,474	10,015	14,012	119,603
	All ages	25,910	22,099	23,393	22,735	20,985	19,206	19,717	19,236	19,103	21,278	21,995	29,170	264,827
North East	0–64	191	160	165	145	148	117	158	141	136	166	159	176	1,862
	65–74	208	161	173	173	166	158	145	131	153	161	175	203	2,007
	75–84	493	402	390	416	353	329	348	348	328	353	385	513	4,658
	85+	604	501	495	464	427	367	381	387	418	442	444	667	5,597
	All ages	1,496	1,224	1,223	1,198	1,094	971	1,032	1,007	1,035	1,122	1,163	1,559	14,124
North West	0–64	426	413	451	440	420	395	420	389	401	400	408	502	5,065
	65–74	516	441	445	434	418	387	428	419	379	411	457	607	5,342
	75–84	1,051	947	1,025	993	880	794	828	795	762	891	955	1,218	11,139
	85+	1,573	1,334	1,452	1,383	1,190	1,086	1,098	1,110	1,041	1,176	1,348	1,822	15,613
	All ages	3,566	3,135	3,373	3,250	2,908	2,662	2,774	2,713	2,583	2,878	3,168	4,149	37,159
Yorkshire and The Humber	0–64	303	281	300	269	269	270	301	294	273	290	292	310	3,452
	65–74	337	251	312	288	299	294	268	264	263	296	301	397	3,570
	75–84	811	666	683	672	647	594	623	543	551	603	691	837	7,921
	85+	1,124	949	1,007	1,014	884	781	793	778	808	888	939	1,318	11,283
	All ages	2,575	2,147	2,302	2,243	2,099	1,939	1,985	1,879	1,895	2,077	2,223	2,862	26,226
East Midlands	0–64	263	231	250	222	217	227	259	209	220	228	230	283	2,839
	65–74	240	213	254	243	222	211	215	180	222	219	248	277	2,744
	75–84	630	559	555	565	483	488	484	480	461	521	571	719	6,516
	85+	971	770	808	856	729	696	704	693	657	756	824	1,154	9,618
	All ages	2,104	1,773	1,867	1,886	1,651	1,622	1,662	1,562	1,560	1,724	1,873	2,433	21,717
West Midlands	0–64	324	309	333	321	276	264	282	282	263	291	274	323	3,542
	65–74	351	280	333	296	316	234	272	254	285	285	282	380	3,568
	75–84	793	707	724	685	646	617	609	544	590	634	623	873	8,045
	85+	1,241	927	998	1,010	919	821	877	832	822	908	975	1,395	11,725
	All ages	2,709	2,223	2,388	2,312	2,157	1,936	2,040	1,912	1,960	2,118	2,154	2,971	26,880
East of England	0–64	301	254	282	298	305	215	215	288	241	277	269	322	3,267
	65–74	300	254	288	282	270	251	280	284	224	304	238	320	3,295
	75–84	756	656	737	704	588	562	600	557	559	607	706	838	7,870
	85+	1,289	1,103	1,172	1,082	1,025	927	929	959	913	1,087	1,106	1,494	13,086
	All ages	2,646	2,267	2,479	2,366	2,188	1,955	2,024	2,088	1,937	2,275	2,319	2,974	27,518
London	0–64	355	345	344	321	335	307	292	296	303	321	338	386	3,943
	65–74	311	289	282	274	283	243	243	263	217	275	263	346	3,289
	75–84	719	624	709	623	546	533	569	514	458	582	584	750	7,211
	85+	1,079	939	1,003	960	883	791	788	764	772	898	913	1,325	11,115
	All ages	2,464	2,197	2,338	2,178	2,047	1,874	1,892	1,837	1,750	2,076	2,098	2,807	25,558
South East	0–64	397	392	364	387	393	378	372	363	340	412	369	419	4,586
	65–74	405	398	390	387	355	387	358	358	347	389	371	466	4,611
	75–84	1,070	929	992	1,005	876	829	826	820	858	918	933	1,210	11,266
	85+	1,950	1,684	1,804	1,692	1,596	1,446	1,384	1,412	1,462	1,616	1,644	2,374	20,064
	All ages	3,822	3,403	3,550	3,471	3,220	3,040	2,940	2,953	3,007	3,335	3,317	4,469	40,527
South West	0–64	296	231	266	251	238	219	245	230	264	271	239	260	3,010
	65–74	337	226	262	241	230	211	237	220	232	246	243	323	3,008
	75–84	815	658	652	665	625	573	600	651	597	623	611	845	7,915
	85+	1,463	1,175	1,177	1,204	1,143	990	985	988	1,026	1,124	1,245	1,637	14,157
	All ages	2,911	2,290	2,357	2,361	2,236	1,993	2,067	2,089	2,119	2,264	2,338	3,065	28,090
Wales	0–64	193	170	175	190	183	156	171	155	190	200	171	220	2,174
	65–74	180	197	186	182	171	163	173	158	185	207	184	272	2,258
	75–84	472	427	464	429	379	358	351	343	334	391	387	526	4,861
	85+	734	618	661	632	606	503	556	501	497	568	571	816	7,263
	All ages	1,579	1,412	1,486	1,433	1,339	1,180	1,251	1,157	1,206	1,366	1,313	1,834	16,556
England	0–64	2,856	2,616	2,755	2,654	2,601	2,392	2,544	2,492	2,441	2,656	2,578	2,981	31,566
	65–74	3,005	2,513	2,739	2,618	2,559	2,376	2,446	2,373	2,322	2,586	2,578	3,319	31,434
	75–84	7,138	6,148	6,467	6,328	5,644	5,319	5,487	5,252	5,164	5,732	6,059	7,803	72,541
	85+	11,294	9,382	9,916	9,665	8,796	7,905	7,939	7,923	7,919	8,895	9,438	13,186	112,258
	All ages	24,293	20,659	21,877	21,265	19,600	17,992	18,416	18,040	17,846	19,869	20,653	27,289	247,799
England and Wales	0–64	3,049	2,786	2,930	2,844	2,784	2,548	2,715	2,647	2,631	2,856	2,749	3,201	33,740
	65–74	3,185	2,710	2,925	2,800	2,730	2,539	2,619	2,531	2,507	2,793	2,762	3,591	33,692
	75–84	7,610	6,575	6,931	6,757	6,023	5,677	5,838	5,595	5,498	6,123	6,446	8,329	77,402
	85+	12,028	10,000	10,577	10,297	9,402	8,408	8,495	8,424	8,416	9,463	10,009	14,002	119,521
	All ages	25,872	22,071	23,363	22,698	20,939	19,172	19,667	19,197	19,052	21,235	21,966	29,123	264,355
elsewhere	0–64	11	14	15	20	28	14	17	17	22	20	8	15	201
	65–74	11	6	8	9	5	8	13	8	8	10	9	10	105
	75–84	6	6	4	6	9	3	10	12	8	2	6	12	84
	85+	10	2	3	2	4	9	10	2	13	11	6	10	82
	All ages	38	28	30	37	46	34	50	39	51	43	29	47	472

1 Deaths where the month of death is not known and/or not recorded on the death certificate are included in the total number of deaths, therefore the monthly deaths may not sum to the total.

Report:

Infant and perinatal mortality in England and Wales by social and biological factors, 2008

Julie Messer
Office for National Statistics

Key findings

- Almost half of all infant deaths (48 per cent) occurred among very low birthweight babies (under 1,500 grams)
- The infant mortality rate was highest among babies of mothers aged under 20 (6.5 deaths per 1,000 live births) whereas the stillbirth and perinatal mortality rates were highest among babies of mothers aged 40 and over (7.3 and 10.0 per 1,000 total births respectively)
- Infant mortality rates were 50 per cent higher in babies of mothers born in the New Commonwealth compared to babies of mothers born in England and Wales (6.6 and 4.4 deaths per 1,000 live births respectively)
- The infant mortality rate for babies with fathers in routine occupations (NS-SEC group 7) was twice that for babies with fathers in the higher managerial occupations (NS-SEC group 1) (5.5 and 2.8 deaths per 1,000 live births respectively)

The data used in this report are all infant deaths and stillbirths which occurred in the stated year, and the annual totals of births which occurred for that year. This report focuses on the deaths which have been successfully linked to their corresponding birth records, to make social and biological factors available for analyses.

Results

In 2008, there were 3,281 infant deaths in England and Wales of which 3,220 (98 per cent) were linked to their corresponding birth records. Of the 61 records that were not linked, 32 babies were born outside England and Wales (and therefore not registered in England and Wales) and 29 were not linked because no record of the birth could be found. The linkage rate for 2008 is comparable with that for previous years. Table 1 shows comparable figures for 1998 to 2007.

In 2008, of all the linked infant deaths 1,709 (53 per cent) were early neonates, 2,225 (69 per cent) were neonatal deaths and 995 (31 per cent) were postneonatal deaths. (See Box One for definitions). The infant mortality rates for very low birthweight babies (under 1,500 grams) and

Table 1 **Infant deaths and infant mortality rates: all and linked deaths, 1998–2008[1]**

England and Wales — Numbers and rates

	Numbers								Rates[3]					
	Births[2]		Deaths[2]											
	Live births	Stillbirths	Neonatal		Postneonatal		Infant		Neonatal		Postneonatal		Infant	
Year			All	Linked	All	Linked	All	Linked	All	Linked	All	Linked	All	Linked
1998	635,921	3,418	2,418	2,401	1,207	1,156	3,625	3,557	3.8	3.8	1.9	1.8	5.7	5.6
1999	621,767	3,303	2,435	2,401	1,186	1,147	3,621	3,548	3.9	3.9	1.9	1.8	5.8	5.7
2000	604,420	3,214	2,335	2,307	1,042	1,018	3,377	3,325	3.9	3.8	1.7	1.7	5.6	5.5
2001	594,537	3,157	2,137	2,107	1,103	1,065	3,240	3,172	3.6	3.5	1.9	1.8	5.4	5.3
2002	596,131	3,377	2,126	2,101	1,001	978	3,127	3,079	3.6	3.5	1.7	1.6	5.2	5.2
2003	621,548	3,591	2,264	2,229	1,042	1,014	3,306	3,243	3.6	3.6	1.7	1.6	5.3	5.2
2004	639,662	3,608	2,209	2,185	1,009	972	3,218	3,157	3.5	3.4	1.6	1.5	5.0	4.9
2005	645,881	3,484	2,227	2,197	1,032	1,011	3,259	3,208	3.4	3.4	1.6	1.6	5.0	5.0
2006	669,527	3,611	2,325	2,292	996	958	3,321	3,250	3.5	3.4	1.5	1.4	5.0	4.9
2007	689,893	3,600	2,248	2,207	1,016	982	3,264	3,189	3.3	3.2	1.5	1.4	4.7	4.6
2008	708,644	3,621	2,260	2,225	1,021	995	3,281	3,220	3.2	3.1	1.4	1.4	4.6	4.5

1 Figures for 2008 are provisional.
2 Births and deaths are occurrences within each year.
3 Neonatal, postneonatal and infant deaths per 1,000 live births.

Box one

Definitions used in infant mortality statistics

Stillbirth	born after 24 or more weeks completed gestation and which did not, at any time, breathe or show signs of life
Early neonatal	under seven days after live birth
Perinatal	stillbirths and early neonatal deaths
Neonatal	under 28 days after live birth
Postneonatal	at least 28 days but under one year after live birth
Infant	under a year after live birth
Rates	Stillbirths and perinatal mortality rates reported per 1,000 total births (live and stillbirths) Early neonatal, neonatal, postneonatal and infant mortality rates reported per 1,000 live births

low birthweight babies (under 2,500 grams) were 177.3 and 39.6 deaths per 1,000 live births respectively compared with a rate of 1.6 among babies of normal birthweight (2,500 grams and over) (Table 2). Forty-eight per cent of infant deaths occurred among very low birthweight babies.

Table 3 shows gestational age and birthweight for stillbirths. The majority of very low birthweight babies (under 1,500 grams) were also of low gestational age (24–27 weeks). These 892 stillborn babies represented 95 per cent of all stillbirths delivered at 24–27 weeks and 56 per cent of all very low birthweight stillbirths.

Infant deaths varied by mother's age at the baby's birth (Table 4). The infant mortality rate was highest among babies of mothers aged under 20 (6.5 deaths per 1,000 live births) and lowest among babies with mothers in the 30–34 age group (3.8 per 1,000 live births). Babies of mothers aged 40 and over had the highest stillbirth and perinatal mortality rates at 7.3 and 10.0 per 1,000 total births respectively.

Table 5 shows live births, stillbirths and infant deaths by the mother's country of birth (see Box Two for country groupings). Infant mortality rates were 50 per cent higher in babies of mothers born in the New Commonwealth compared to babies of mothers born in England and Wales (6.6 and 4.4 deaths per 1,000 live births respectively). Within the New Commonwealth, infant mortality rates were highest in babies of mothers born in the Caribbean (9.5), Pakistan (8.7) and certain African countries (the Rest of Africa (8.0) and East Africa (7.0)): all rates are deaths per 1,000 live births.

Table 2 **Live births, stillbirths and infant deaths by birthweight, 2008**

England and Wales — Numbers and rates

Birthweight (grams)	Numbers						Rates[1]				
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Postneonatal	Infant	Stillbirth	Perinatal	Neonatal	Postneonatal	Infant
All	708,644	3,621	1,709	2,225	995	3,220	5.1	7.5	3.1	1.4	4.5
Under 1,500	8,731	1,604	1,040	1,289	259	1,548	155.2	255.8	147.6	29.7	177.3
1,500–1,999	10,058	390	92	131	76	207	37.3	46.1	13.0	7.6	20.6
2,000–2,499	31,881	403	90	136	118	254	12.5	15.3	4.3	3.7	8.0
2,500–2,999	116,338	464	122	173	183	356	4.0	5.0	1.5	1.6	3.1
3,000–3,499	251,066	393	132	198	200	398	1.6	2.1	0.8	0.8	1.6
3,500 and over	285,161	340	113	158	137	295	1.2	1.6	0.6	0.5	1.0
Not stated	5,409	27	120	140	22	162	5.0	27.0	25.9	4.1	30.0

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

Box two

Mother's country of birth

United Kingdom

England, Wales, Scotland, Northern Ireland

Elsewhere in United Kingdom

Channel Islands, Isle of Man, UK (part not stated)

Outside United Kingdom

Irish Republic Irish Republic, Ireland (part not stated)

Other European Union Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden

Rest of Europe All other European countries including Turkey, Russia, Ukraine and the rest of the former Soviet republics

Commonwealth

Australia, Canada and New Zealand

New Commonwealth:

Asia :	Bangladesh, India, Pakistan
East Africa:	Kenya, Malawi, Mozambique, Tanzania, Uganda, Zambia
Southern Africa:	Botswana, Lesotho, Namibia, South Africa, Swaziland
Rest of Africa:	Cameroon, The Gambia, Ghana, Mauritius, Nigeria, Seychelles, Sierra Leone
Far East:	Brunei, Malaysia, Singapore
Caribbean:	Anguilla, Antigua, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Kitts and Nevis, St Lucia, St Vincent, Trinidad and Tobago, Turks and Caicos Islands

Rest of the New Commonwealth: Cook Islands, Falkland Islands, Fiji, Gibraltar, Kiribati, Maldives, Nauru, Papua New Guinea, St Helena Solomon Islands, Sri Lanka, Tonga, Tuvalu, Vanuatu, Western Samoa, British Indian Ocean Territory

Rest of the World and not stated includes United States of America

Perinatal mortality rates were also higher in babies of mothers born in the New Commonwealth compared to babies of mothers born in England and Wales (11.2 and 7.0 deaths per 1,000 total births respectively). Within the New Commonwealth, perinatal mortality rates were highest in babies of mothers born in the Caribbean (15.1), certain African countries (the Rest of Africa (14.1) and East Africa (12.0)), Pakistan (11.7) and Bangladesh (10.6): all rates are deaths per 1,000 total births. The highest postneonatal death rate was for babies of mothers born in Pakistan (3.9 per 1,000 live births) compared to the overall postneonatal mortality rate of 1.4 per 1,000 live births.

Registration type is determined from the child's birth records (Table 6) with four categories: within lawful marriage, jointly registered by both parents outside of marriage at the same address, joint registration with parents at different addresses and births solely registered by the mother. The registration types with the highest infant mortality rates were sole registered births (6.9 per 1,000 live births) and births outside marriage jointly registered by both parents giving different addresses (6.2 deaths per 1,000 live births). Parity, the number of the mother's previous live-born and stillborn children, is recorded only for married women. Of this group, babies born to women with three or more previous children had a high infant mortality at 5.9 deaths per 1,000 live births.

Box three

National Statistics Socio-Economic Classification (NS-SEC): eight analytic class version, with examples

1 Higher managerial and professional occupations
Directors and chief executives of major organisation, civil engineers, medical practitioners, IT strategy and planning professionals, legal professionals, architects, senior officials in national and local government

2 Lower managerial and professional occupations
Teachers in primary and secondary schools, quantity surveyors, public service administrative professionals, social workers, nurses, IT technicians

3 Intermediate occupations
Graphics designers, medical and dental technicians, Civil Service administrative officers and local government clerical officers, counter clerks, school and company secretaries

4 Small employers and own account workers
Hairdressing and beauty salon proprietors, shopkeepers, dispensing opticians in private practice, farmers, self-employed decorators

5 Lower supervisory and technical occupations
Bakers and flour confectioners, catering supervisor, head waitress, postal supervisor, sales assistant supervising others

6 Semi-routine occupations
Retail assistants, catering assistants, clothing cutters, dressmaker, traffic wardens, veterinary nurses and assistants, shelf fillers

7 Routine occupations
Hairdressing employees, floral arrangers, sewing machinists, bar staff, cleaners and domestics

Other
Full-time students, never worked, long-term unemployed, inadequately described, not classifiable for other reasons

Source: NS-SEC User Manual, Office for National Statistics[2]

Table 3 Stillbirths: gestation by birthweight, 2008

England and Wales — Numbers

Birthweight (grams)	All	Gestation (weeks)					
		24–27	28–31	32–35	36–39	40 and over	Not stated
All	3,621	941	612	639	932	490	7
Under 1,000	1,120	807	241	49	17	5	1
1,000–1,499	484	85	250	130	19	0	–
1,500–1,999	390	8	93	214	70	5	–
2,000–2,499	403	7	21	166	176	33	–
2,500–2,999	464	5	3	58	294	104	–
3,000–3,499	393	5	–	14	214	158	2
3,500 and over	340	15	1	5	135	184	–
Not stated	27	9	3	3	7	1	4

Table 4 Live births, stillbirths and infant deaths by mother's age, 2008

England and Wales — Numbers and rates

Mother's age	Numbers						Rates[1]				
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Postneonatal	Infant	Stillbirth	Perinatal	Neonatal	Postneonatal	Infant
All	708,644	3,621	1,709	2,225	995	3,220	5.1	7.5	3.1	1.4	4.5
Under 20	44,683	249	123	178	112	290	5.5	8.3	4.0	2.5	6.5
20–24	135,959	768	350	469	247	716	5.6	8.2	3.4	1.8	5.3
25–29	192,945	868	454	601	263	864	4.5	6.8	3.1	1.4	4.5
30–34	192,424	910	433	539	198	737	4.7	6.9	2.8	1.0	3.8
35–39	116,216	632	276	343	129	472	5.4	7.8	3.0	1.1	4.1
40 and over	26,417	194	73	95	46	141	7.3	10.0	3.6	1.7	5.3

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 5 Live births, stillbirths and infant deaths by mother's country of birth, 2008

England and Wales

Numbers and rates

Country of birth	Numbers						Rates[1]				
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Postneonatal	Infant	Stillbirth	Perinatal	Neonatal	Postneonatal	Infant
All	708,644	3,621	1,709	2,225	995	3,220	5.1	7.5	3.1	1.4	4.5
United Kingdom	537,807	2,516	1,240	1,638	717	2,355	4.7	7.0	3.0	1.3	4.4
England and Wales	527,768	2,475	1,212	1,601	708	2,309	4.7	7.0	3.0	1.3	4.4
Scotland	7,270	30	18	23	5	28	4.1	6.6	3.2	*0.7*	3.9
Northern Ireland	2,393	9	8	12	4	16	*3.7*	7.1	5.0	*1.7*	6.7
Elsewhere	376	2	2	2	–	2	*5.3*	*10.6*	*5.3*	–	*5.3*
Outside the United Kingdom	170,837	1,105	469	587	278	865	6.4	9.2	3.4	1.6	5.1
Irish Republic	3,063	17	6	10	4	14	5.5	7.5	3.3	1.3	4.6
Other European Union	40,387	185	70	83	41	124	4.6	6.3	2.1	1.0	3.1
Rest of Europe	7,798	38	14	17	10	27	4.8	6.6	2.2	1.3	3.5
Commonwealth											
Australia, Canada and New Zealand	4,766	18	13	14	6	20	3.8	6.5	2.9	*1.3*	4.2
New Commonwealth	70,590	549	246	310	156	466	7.7	11.2	4.4	2.2	6.6
Asia											
Bangladesh	8,631	65	27	31	15	46	7.5	10.6	3.6	1.7	5.3
India	12,455	85	28	35	15	50	6.8	9.0	2.8	1.2	4.0
Pakistan	18,821	158	65	90	74	164	8.3	11.7	4.8	3.9	8.7
East Africa	4,151	30	20	24	5	29	7.2	12.0	5.8	*1.2*	7.0
Southern Africa	4,776	25	7	9	5	14	5.2	6.7	1.9	*1.0*	2.9
Rest of Africa	13,052	127	59	74	30	104	9.6	14.1	5.7	2.3	8.0
Far East	1,456	6	6	6	1	7	*4.1*	8.2	4.1	*0.7*	4.8
Caribbean	3,472	27	26	28	5	33	7.7	15.1	8.1	*1.4*	9.5
Rest of the New Commonwealth	3,776	26	8	13	6	19	6.8	8.9	3.4	*1.6*	5.0
Rest of World and not stated	44,233	298	120	153	61	214	6.7	9.4	3.5	1.4	4.8

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.
Note: Rates based on fewer than 10 deaths are in italics.

Table 6 Live births, stillbirths and infant deaths by marital status, parity (within marriage) and type of registration, 2008

England and Wales

Numbers and rates

Marital status Parity/type of registration	Numbers						Rates[1]				
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Postneonatal	Infant	Stillbirth	Perinatal	Neonatal	Postneonatal	Infant
All	708,644	3,621	1,709	2,225	995	3,220	5.1	7.5	3.1	1.4	4.5
Inside marriage											
All	387,916	1,873	876	1,112	478	1,590	4.8	7.1	2.9	1.2	4.1
0	162,761	877	433	545	186	731	5.4	8.0	3.3	1.1	4.5
1	138,146	534	241	310	154	464	3.9	5.6	2.2	1.1	3.4
2	55,202	250	108	132	76	208	4.5	6.5	2.4	1.4	3.8
3 and over	31,807	212	94	125	62	187	6.6	9.6	3.9	1.9	5.9
Outside marriage											
All	320,728	1,748	833	1,113	517	1,630	5.4	8.0	3.5	1.6	5.1
Joint registration/same address	210,040	1,111	503	657	254	911	5.3	7.6	3.1	1.2	4.3
Joint registration/different address	65,238	338	200	269	138	407	5.2	8.2	4.1	2.1	6.2
Sole registration	45,450	299	130	187	125	312	6.5	9.4	4.1	2.8	6.9

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 7 shows infant deaths by father's occupational status across eight classes (see Box Three). The infant mortality rate for babies with fathers in routine occupations (NS-SEC group 7) was twice that for babies with fathers in higher managerial occupations (NS-SEC group 1) (5.5 and 2.8 deaths per 1,000 live births respectively). The figures in Table 7 exclude 'sole registrations' where only details of the mother are recorded. Less than 7 per cent of all births are sole registrations and less than 10 per cent of infant deaths are to sole registered births.

In England and Wales, neonatal deaths are registered using a special perinatal death certificate which enables reporting of relevant diseases or conditions in both the infant and the mother. For postneonatal deaths, a single underlying cause of death can be reported as for adults. ONS has developed a hierarchical classification system producing broad cause groups to enable direct comparison of neonatal and postneonatal deaths[1]. Table 8 shows that factors operating during pregnancy (congenital anomalies, antepartum infections and immaturity related conditions) were the most common cause of infant deaths (72.5 per cent) and neonatal deaths (85.8 per cent). For postneonatal deaths, less than half were related to factors operating during pregnancy (42.8 per cent), while 18.9 per cent were 'other conditions', 15.3 per cent were from infections and 13.7 per cent were sudden infant deaths.

The data

The figures for 2008 presented in this report relate to live births, stillbirths and infant deaths that occurred in England and Wales in 2008 and comprise the infant deaths which had been linked to their corresponding birth records by 22 September 2009. These figures are provisional. Figures reported in Table 1 for 1998 to 2007 are final figures.

Only infant deaths that have been linked to their corresponding birth records are included as linkage enables analysis of infant and perinatal deaths by risk factors collected at birth registration. These include birthweight, mother's age at birth of child, mother's country of birth, marital status, parity and father's socio-economic status based on his occupation. Birthweight information was not available for 0.8 per cent of live births and 0.7 per cent of stillbirths.

The figures in this report differ slightly from those presented in the 'Infant and perinatal mortality by health areas in England and Wales, 2008' report published in this issue of *Health Statistics Quarterly* which are based on death registrations for 2008. The live births and stillbirths figures also differ slightly: this report is based on occurrences only within each year while the 'health areas' report uses birth occurrences plus late registrations from the previous year.

Table 7 **Live births,[1] stillbirths and infant deaths[2] by National Statistics Socio-economic Classification (NS-SEC), 2008**

England and Wales — Numbers and rates

NS-SEC	Numbers						Rates[3]				
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Postneo-natal	Infant	Stillbirth	Perinatal	Neonatal	Postneo-natal	Infant
All[4]	663,194	3,322	1,579	2,038	870	2,908	5.0	7.4	3.1	1.3	4.4
Inside marriage											
All[5]	387,916	1,873	876	1,112	478	1,590	4.8	7.1	2.9	1.2	4.1
1.1 Large employers and higher managerial	3,718	109	60	74	27	101	2.9	4.5	2.0	0.7	2.7
1.2 Higher professional	5,201	206	102	132	36	168	3.9	5.9	2.5	0.7	3.2
2 Lower managerial and professional	9,096	377	168	210	78	288	4.1	6.0	2.3	0.9	3.2
3 Intermediate	2,332	127	61	78	39	117	5.4	8.0	3.3	1.7	5.0
4 Small employers and own-account workers	5,317	223	103	124	74	198	4.2	6.1	2.3	1.4	3.7
5 Lower supervisory and technical	4,199	187	85	107	37	144	4.4	6.4	2.5	0.9	3.4
6 Semi-routine	3,801	247	111	140	63	203	6.5	9.4	3.7	1.7	5.3
7 Routine	3,474	246	104	148	55	203	7.0	10.0	4.3	1.6	5.8
Other[6]	1,753	149	58	72	44	116	8.4	11.7	4.1	2.5	6.6
Outside marriage joint registration											
All[5]	275,278	1,449	703	926	392	1,318	5.2	7.8	3.4	1.4	4.8
1.1 Large employers and higher managerial	999	35	20	23	9	32	3.5	5.5	2.3	*0.9*	3.2
1.2 Higher professional	1,220	52	24	29	9	38	4.2	6.2	2.4	*0.7*	3.1
2 Lower managerial and professional	4,173	179	80	98	38	136	4.3	6.2	2.3	0.9	3.3
3 Intermediate	1,360	71	41	49	17	66	5.2	8.2	3.6	1.3	4.9
4 Small employers and own-account workers	3,851	177	82	109	38	147	4.6	6.7	2.8	1.0	3.8
5 Lower supervisory and technical	4,415	198	94	132	42	174	4.5	6.6	3.0	1.0	3.9
6 Semi-routine	3,810	225	125	170	60	230	5.9	9.1	4.5	1.6	6.0
7 Routine	5,334	320	145	194	86	280	6.0	8.7	3.6	1.6	5.2
Other[6]	2,290	190	65	80	63	143	8.2	11.0	3.5	2.8	6.2

1 Information on father's occupation is not collected for births outside marriage if the father does not attend the registration of the baby's birth. Figures for live births in NS-SEC groups are a 10 per cent sample coded for father's occupation.

2 NS-SEC based on father's occupation at death registration.

3 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

4 Inside marriage and outside marriage/joint registration only, including cases where father's occupation was not stated.

5 Includes cases where father's occupation was not stated.

6 Students; occupations inadequately described; occupations not classifiable for other reasons; never worked and long-term unemployed.

Note: Rates based on fewer than 10 deaths are in italics.

Table 8 **Live births, stillbirths and infant deaths by ONS cause groups, 2008**

England and Wales

Numbers and rates

Cause group	Numbers						Rates[1]				
	Births		Deaths								
	Live births	Stillbirths	Early neo-natal	Neonatal	Postneonatal	Infant	Stillbirth	Perinatal	Neonatal	Postneonatal	Infant
All causes	708,644	3,621	1,709	2,225	995	3,220	5.1	7.5	3.1	1.4	4.5
Congenital anomalies		523	408	562	281	843	0.7	1.3	0.8	0.4	1.2
Antepartum infections		33	40	84	7	91	–	0.1	0.1	–	0.1
Immaturity related conditions		:	1,036	1,263	138	1,401	:	1.5	1.8	0.2	2.0
Asphyxia, anoxia or trauma (intrapartum)		98	169	197	22	219	0.1	0.4	0.3	–	0.3
External conditions		7	4	5	46	51	–	–	–	0.1	0.1
Infections		:	14	32	152	184	:	–	–	0.2	0.3
Other specific conditions		224	11	14	25	39	0.3	0.3	-	–	0.1
Asphyxia, anoxia or trauma (antepartum)		901	:	:	:	:	1.3	1.3	:	:	:
Remaining antepartum deaths		1,735	:	:	:	:	2.4	2.4	:	:	:
Sudden infant deaths		:	5	26	136	162	:	–	–	0.2	0.2
Other conditions		100	22	42	188	230	0.1	0.2	0.1	0.3	0.3

: not applicable – less than 0.05.

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

References

1 Dattani N and Rowan S (2002) 'Causes of neonatal deaths and stillbirths: a new hierarchical classification in ICD–10', *Health Statistics Quarterly* **15**, 16–22. Available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6725

2 Office for National Statistics (2001) The National Statistics Socio–economic Classification. Available on the Office for National Statistics website: www.ons.gov.uk/about-statistics/classifications/current/ns-sec/index.html

3 Office for National Statistics (2009) *Mortality statistics: Childhood, infant and perinatal, 2007*, Series DH3 no. 40. Details of the associated ICD–10 codes allocated to neonatal and postneonatal deaths can be found in Annex K and Annex L, and description of the ONS cause group classification system on page xix. Available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6305

Report:

Infant and perinatal mortality by health areas in England and Wales, 2008

Christopher Hill
Office for National Statistics

Key findings

- There were 3,369 infant deaths (deaths under one year) registered in England and Wales in 2008, giving an infant mortality rate of 4.8 per thousand live births
- In 2008, there were 3,617 stillbirths and 1,763 deaths at ages under seven days registered in England and Wales, giving a total of 5,380 perinatal deaths
- The neonatal mortality rate (deaths under 28 days) decreased to 3.2 per thousand live births in 2008, from 3.3 in 2007. The postneonatal mortality rate (deaths between 28 days and one year) remained at 1.5 per thousand live births

This report gives statistics on infant deaths registered in 2008, and live births and stillbirths occurring in 2008, in England and Wales, for residents of each Government Office Region (GOR) and Strategic Health Authority (SHA) in England and Local Health Board (LHB) in Wales.

The figures in this report differ slightly from those presented in the 'Infant and perinatal mortality in England and Wales by social and biological factors, 2008' report published in this issue of *Health Statistics Quarterly* which are based on provisional numbers of infant deaths which occurred in England and Wales in 2008. The live births and stillbirths figures also differ slightly: this report used birth occurrences plus late registrations from the previous years, while the 'social and biological factors' report uses occurences only within each year.

The stillbirth rate decreased from 5.2 per thousand live births and stillbirths in 2007 to 5.1 per thousand live births and stillbirths in 2008. The perinatal

Table 1 **Live births, stillbirths and infant deaths, 1978–2008**

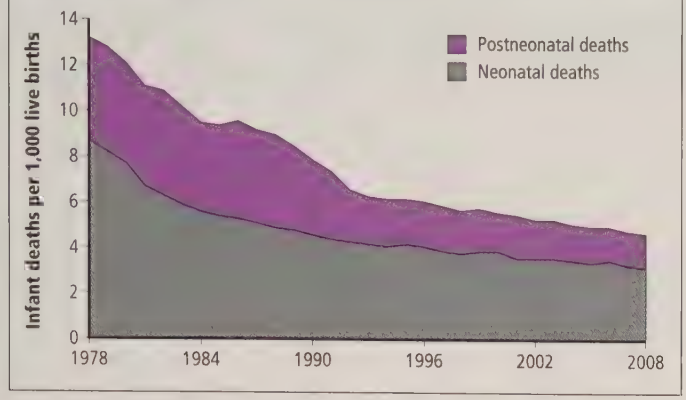
England and Wales

Year			Number of deaths[2]					Mortality rates[3]			
	Live births	Stillbirths[1]	Early neonatal	Neonatal	Postneonatal	Infant	Stillbirth rate	Perinatal	Neonatal	Post-neonatal	Infant
Numbers											
1978	596,418	5,108	4,242	5,187	2,694	7,881	8.5	15.5	8.7	4.5	13.2
1983	629,134	3,631	2,951	3,682	2,699	6,381	5.7	10.4	5.9	4.3	10.1
1988	693,577	3,382	2,701	3,421	2,849	6,270	4.9	8.7	4.9	4.1	9.0
1993	673,467	3,855	2,178	2,796	1,446	4,242	5.7	8.9	4.2	2.1	6.3
1994	664,726	3,813	2,142	2,749	1,371	4,120	5.7	8.9	4.1	2.1	6.2
1995	648,138	3,600	2,104	2,698	1,284	3,982	5.5	8.7	4.2	2.0	6.1
1996	649,489	3,539	2,066	2,645	1,314	3,959	5.4	8.6	4.1	2.0	6.1
1997	643,095	3,439	1,941	2,517	1,282	3,799	5.3	8.3	3.9	2.0	5.9
1998	635,901	3,417	1,844	2,418	1,207	3,625	5.3	8.2	3.8	1.9	5.7
1999	621,872	3,305	1,833	2,435	1,186	3,621	5.3	8.2	3.9	1.9	5.8
2000	604,441	3,203	1,753	2,335	1,042	3,377	5.3	8.2	3.9	1.7	5.6
2001	594,634	3,159	1,598	2,137	1,103	3,240	5.3	8.0	3.6	1.9	5.4
2002	596,122	3,372	1,620	2,126	1,001	3,127	5.6	8.3	3.6	1.7	5.2
2003	621,469	3,612	1,749	2,264	1,042	3,306	5.8	8.6	3.6	1.7	5.3
2004	639,721	3,686	1,699	2,209	1,009	3,218	5.7	8.4	3.5	1.6	5.0
2005	645,835	3,483	1,697	2,227	1,032	3,259	5.4	8.0	3.4	1.6	5.0
2006	669,601	3,602	1,751	2,325	996	3,321	5.4	8.0	3.5	1.5	5.0
2007	690,013	3,598	1,745	2,248	1,016	3,264	5.2	7.7	3.3	1.5	4.7
2008	708,711	3,617	1,763	2,299	1,070	3,369	5.1	7.6	3.2	1.5	4.8

1 See Background note 3.
2 Numbers of deaths shown are based on annual occurrences for years 1993 to 2007, and on annual registrations for all other years.
3 Stillbirths and perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.

Figure 1 Infant mortality rates, 1978–2008

England and Wales



mortality rate also decreased from 7.7 per thousand live births and stillbirths in 2007 to 7.6 per thousand live births and stillbirths in 2008 (Table 1).

Figure 1 shows the infant mortality rate over the period 1978 to 2008 by age at death in the neonatal and postneonatal period. The infant mortality rate fell by 64 per cent over this period, while the neonatal and postneonatal mortality rates all fell by 63 and 67 per cent respectively. However, the rates of change were not constant over the period, change in the first half of the period being about twice that in the second half.

Geographical variation in infant mortality

There was considerable variation in the infant mortality rate across the health authorities. In 2008, West Midlands had the highest infant mortality rate among the SHAs in England at 6.5 deaths per thousand live births. South East Coast had the lowest at 3.8 deaths per thousand live births (Table 2). The highest infant mortality rate among the LHBs in Wales was 9.5 deaths per thousand live births in Torfaen (Table 3).

Live births and birthweight

There were 708,711 live births in England and Wales in 2008, compared with 690,013 in 2007. This is a rise of 2.7 per cent and the seventh successive increase in the annual number of live births.

Low birthweight is one of the known risk factors for infant deaths.[1] Table 2 shows the number of births and the proportions of low and very low birthweight babies for England and Wales and Strategic

Table 2 Births, perinatal and infant mortality statistics, 2008

England and Wales, and Government Office Regions and Strategic Health Authorities in England

Area	Numbers					Mortality rates[1]				Percentage of live births with a stated birthweight	
	Births		Deaths								
	Live births	Stillbirths	Early neonatal	Neonatal	Infant	Perinatal	Neonatal	Post-neonatal	Infant	Under 1,500g	Under 2,500g
England and Wales[2]	**708,711**	**3,617**	**1,763**	**2,299**	**3,369**	**7.6**	**3.2**	**1.5**	**4.8**	**1.2**	**7.2**
England	**672,809**	**3,427**	**1,679**	**2,177**	**3,184**	**7.6**	**3.2**	**1.5**	**4.7**	**1.2**	**7.2**
North East	**30,217**	**179**	**68**	**97**	**127**	**8.1**	**3.2**	**1.0**	**4.2**	**1.3**	**7.6**
North East	30,217	179	68	97	127	8.1	3.2	1.0	4.2	1.3	7.6
North West	**88,167**	**450**	**239**	**307**	**455**	**7.8**	**3.5**	**1.7**	**5.2**	**1.2**	**7.3**
North West	88,167	450	239	307	455	7.8	3.5	1.7	5.2	1.2	7.3
Yorkshire and The Humber	**66,353**	**371**	**159**	**222**	**357**	**7.9**	**3.3**	**2.0**	**5.4**	**1.2**	**7.4**
Yorkshire and the Humber	66,353	371	159	222	357	7.9	3.3	2.0	5.4	1.2	7.4
East Midlands	**54,192**	**255**	**150**	**190**	**266**	**7.4**	**3.5**	**1.4**	**4.9**	**1.2**	**7.1**
East Midlands	54,192	255	150	190	266	7.4	3.5	1.4	4.9	1.2	7.1
West Midlands	**71,726**	**403**	**269**	**329**	**469**	**9.3**	**4.6**	**2.0**	**6.5**	**1.3**	**8.5**
West Midlands	71,726	403	269	329	469	9.3	4.6	2.0	6.5	1.3	8.5
East	**71,738**	**304**	**161**	**214**	**314**	**6.5**	**3.0**	**1.4**	**4.4**	**1.2**	**6.5**
East of England	71,738	304	161	214	314	6.5	3.0	1.4	4.4	1.2	6.5
London	**127,651**	**730**	**276**	**361**	**545**	**7.8**	**2.8**	**1.4**	**4.3**	**1.4**	**7.6**
London	127,651	730	276	361	545	7.8	2.8	1.4	4.3	1.4	7.6
South East	**104,023**	**471**	**230**	**292**	**417**	**6.7**	**2.8**	**1.2**	**4.0**	**1.1**	**6.3**
South East Coast	51,565	235	109	138	197	6.6	2.7	1.1	3.8	1.1	6.2
South Central	52,458	236	121	154	220	6.8	2.9	1.3	4.2	1.1	6.5
South West	**58,742**	**264**	**127**	**165**	**234**	**6.6**	**2.8**	**1.2**	**4.0**	**1.0**	**6.2**
South West	58,742	264	127	165	234	6.6	2.8	1.2	4.0	1.0	6.2
Wales	**35,650**	**165**	**76**	**108**	**147**	**6.7**	**3.0**	**1.1**	**4.1**	**1.8**	**7.8**
Usual residence outside England and Wales	252	25	8	14	38	:	:	:	:	:	:

1 Perinatal deaths per 1,000 live births and stillbirths. Neonatal, postneonatal and infant deaths per 1,000 live births.
2 Including births and deaths to persons normally resident outside England and Wales.
: not applicable

Table 3 Live births, perinatal and infant mortality statistics, 2008

Local Health Boards in Wales

Area	Numbers				Mortality rates[1]			Percentage of live births with a stated birthweight	
	Live births	Perinatal deaths	Neonatal deaths	Infant deaths	Perinatal	Neonatal	Infant	Under 1,500g	Under 2,500g
Wales	**35,650**	**241**	**108**	**147**	**6.7**	**3.0**	**4.1**	**1.8**	**7.8**
Anglesey	780	*	2	4	*	*2.6*	*5.1*	2.6	8.2
Gwynedd	1,276	13	4	5	*10.1*	*3.1*	*3.9*	2.6	7.5
Conwy	1,163	7	5	6	*6.0*	*4.3*	*5.2*	2.0	7.9
Denbighshire	1,076	6	4	5	*5.6*	*3.7*	*4.6*	1.8	7.3
Flintshire	1,743	7	6	7	*4.0*	*3.4*	*4.0*	1.6	6.8
Wrexham	1,793	8	4	4	*4.4*	*2.2*	*2.2*	1.4	8.0
Powys Teaching	1,280	*	–	2	*	–	*1.6*	0.6	7.8
Ceredigion	603	5	1	1	*8.2*	*1.7*	*1.7*	0.8	4.5
Pembrokeshire	1,251	10	5	5	*8.0*	*4.0*	*4.0*	1.5	7.0
Carmarthenshire	1,971	11	3	5	*5.6*	*1.5*	*2.5*	1.0	6.0
Swansea	2,732	16	7	11	*5.8*	*2.6*	*4.0*	1.0	5.9
Neath Port Talbot	1,551	9	5	7	*5.8*	*3.2*	*4.5*	3.9	9.7
Bridgend	1,630	8	2	2	*4.9*	*1.2*	*1.2*	7.3	13.3
Vale of Glamorgan	1,482	16	6	10	*10.7*	*4.0*	*6.7*	2.6	8.4
Cardiff	4,566	41	17	20	8.9	*3.7*	4.4	1.0	7.1
Rhondda Cynon Taff Teaching	2,908	18	4	7	*6.2*	*1.4*	*2.4*	1.3	8.2
Merthyr Tydfil	781	8	5	5	*10.2*	*6.4*	*6.4*	2.2	8.2
Caerphilly Teaching	2,223	13	7	11	*5.8*	*3.1*	*4.9*	1.8	7.7
Blaenau Gwent	867	5	4	6	*5.8*	*4.6*	*6.9*	1.4	8.7
Torfaen	1,056	10	7	10	*9.4*	*6.6*	*9.5*	2.3	8.3
Monmouthshire	919	6	3	3	*6.5*	*3.3*	*3.3*	1.5	6.4
Newport	1,999	16	7	11	*8.0*	*3.5*	*5.5*	1.5	8.4

1 Perinatal deaths per 1,000 live births and stillbirths. Neonatal and infant deaths per 1,000 live births.
* For perinatal deaths, some counts and rates have been suppressed to protect confidentiality.
Note: Mortality rates calculated from fewer than 20 deaths are distinguished by italic type as a warning that their reliability as a measure may be affected by the small number of events.

Health Authorities in England in 2008. Of those live births with a stated birthweight in England and Wales, 7.2 per cent had a low birthweight (under 2,500 grams) and 1.2 per cent had a very low birthweight (under 1,500 grams). These percentages are unchanged from 2007.

Among the SHAs in England, London had the highest proportion of very low birthweight babies with 1.4 per cent weighing under 1,500g and West Midlands had the highest proportion of low birthweight babies with 8.5 per cent of babies weighing under 2,500g. The SHAs with the lowest proportion of low birthweight babies were South East Coast and South West with 6.2 per cent. South West also had the lowest proportion of very low birthweight babies with 1.0 per cent.

Table 3 shows that among the Local Health Boards of Wales in 2008, the percentage of low birthweight babies was highest in Bridgend (13 per cent) and lowest in Ceredigion (4.5 per cent). The proportion of very low birthweight babies ranged from 0.6 per cent in Powys Teaching, to 7.3 per cent in Bridgend.

Box one

Definitions used in this report:

Early neonatal death: deaths at ages under seven days
Perinatal deaths: stillbirths plus deaths at ages under seven days
Neonatal deaths: deaths at age under 28 days
Postneonatal deaths: deaths between 28 days and one year
Infant deaths: deaths under one year

Background notes

1. Statistics: although the live birth numbers are based on births occurring in 2008, the mortality data here are based on deaths registered in 2008. Additionally, in Table 1 numbers of deaths for 1993 to 2007 are based on occurrences in these years, while numbers for years prior to 1993 are based on registrations. The mortality rates in Table 3 which have been calculated from fewer than 20 deaths are distinguished by italic type as a warning to the user that their reliability may be affected by the small number of events. Areal statistics in this report are derived from the usual residence at the time of birth or death. If the usual residence was outside England and Wales, these events are included in the aggregate for 'England and Wales', but excluded from the figures for individual health areas and GORs. In Table 2, rates and percentages have been excluded where the usual residence was outside England and Wales.

2. Recording of birthweight: since 1975 the Office for National Statistics (formerly the Office of Population, Censuses and Surveys) has obtained the birthweight of a baby from information provided to the Registrar of Births and Deaths by the local health services. Since 2007, with the introduction of the Registration Online system (RON) for registering births and deaths in some districts, ONS has obtained the birthweight for those babies from the NHS Numbers for Babies record. In 2008, birthweight was recorded for 99.2 per cent of all live births and 65.8 per cent of live birth registrations were recorded on RON.

3. Legal definition of stillbirths: on 1 October 1992 the legal definition of a stillbirth was changed from a baby born dead after 28 or more weeks completed gestation to one born dead after 24 or more weeks completed

gestation. This means that perinatal and stillbirth data for 2008 can only be compared with data from 1993 onwards.

4. General: more details on the above, and on other aspects of stillbirth and infant mortality data, can be found in the ONS annual reference volume *Mortality statistics: childhood, infant and perinatal 2007*, Series DH3 no. 40, published in March 2009.[2]

References

1. Office for National Statistics (2008) 'Report: Infant and perinatal mortality by social and biological factors, 2007', *Health Statistics Quarterly* **40**, 61–65. Available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6725
2. Office for National Statistics (2009) *Mortality statistics: childhood, infant and perinatal 2007*, Series DH3 no. **40**. Available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6305

Contact points

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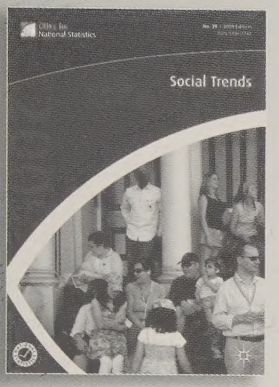

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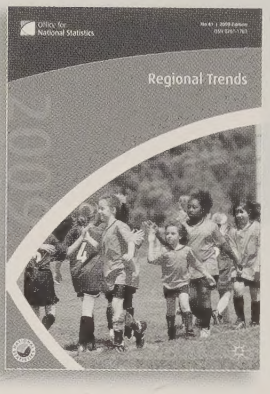

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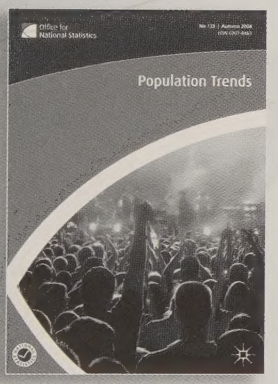

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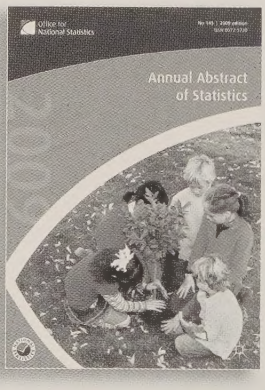

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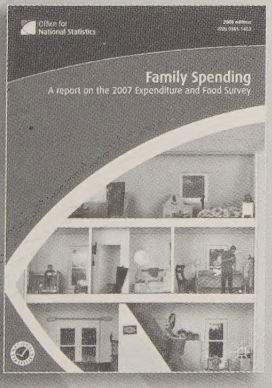

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